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And Engineer

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OUTLET ENDS OF SEPTIC TANKS, OUTLET VALVES AND DISCHARGE CHANNEL

UNTIL 1894 Ithaca, N. Y., had no sewerage system, but cesspools built by each property owner received the waste water. Owing to the nature of the soil and the fact that the lower part of the city was only a few feet above the level of the lake, there was the equivalent of a big cesspool under the entire city, with the consequent great danger of pollution of all the wells within the area. In 1894 Rudolph Hering was employed to design a complete sewerage system, and this was put in operation in 1896. In accordance with this plan all of the sewage was carried by gravity to a main collecting chamber, where was located a pumping station which raised the sewage sufficiently high to enable it to flow by gravity into Lake Cayuga, it not being possible to arrange the piping so that the sewage could be discharged into the lake without pumping. This original plant was designed to care for just about what sewage was furnished at that time.

With the growth of the city the volume of flow, and consequently the friction head, increased to such an extent that the pumps were no longer able to handle it all. When this condition was reached the city employed the firm of Williams and Whitman to make a study of the

situation and report on the plan which they considered it was most feasible to adopt. Their studies embraced:

1. Operation, capacity and efficiency of the present pumping plant.
2. Amount of sewage to be disposed of and the effect of storms on this.
3. Cost of increasing the capacity of the present pumping plant and using the present outfall pipe, as compared with using the same pumping plant and building a larger pipe line which would reduce the pipe friction.
4. The establishment of low and high level systems, with a view of relieving the present pumping plant by intercepting the high level sewage and carrying it directly to Fall Creek by gravity.
5. Building a purification plant at the pumping station with a capacity of five million gallons per day and discharging the effluent into the lake inlet.

Ithaca is so situated that part of the city is only about twenty feet above the level of Lake Cayuga, while the rest of it is some 425 feet above the lake level. While there are separate systems for the domestic and storm sewage, it has been found that in time of storms the water from the streets and gutters of the hill district overflows into the manholes of the domestic sewerage system and often increases the flow from a rate of two million gallons to one of five million gallons per day, which increase sometimes occurs within two hours.

After studying the conditions thoroughly and finding that the lake inlet was already polluted to a considerable extent, the engineers recommended the fifth method of improving the conditions. This provided for the building of a septic or settling tank at the site of the present pumping station, the effluent therefrom discharging into the lake inlet, the present outfall pipe to the lake being reserved as an overflow. It was not thought necessary to purify this sewage to any greater degree than the ordinary water in the lake inlet, and consequently, owing to the condition of this, septic tank treatment was decided to be sufficient, it being estimated that this would remove the solids and effect a purification of 50 per cent. The tanks have been built at such an elevation that filter beds can be added later if this should seem desirable. It was estimated that this would cost about $14,500. Prof. H. N. Ogden, engineer of the State Board of Health, was chosen to act as construction engineer.

During the studies above referred to the following conditions were found: Pumping against a head of 20 feet the pumps had an efficiency of 56.8 per cent., while against a head of 50 feet they had an efficiency of 45.2 per cent. The pumps are of the centrifugal type, driven by direct connected vertical engines.

A summary of the tests is given as follows:

East Engine

Run	Head*	Coal per Hour	Discharge Pounds per Hour	Foot Pounds per Hour	Duty in Ft. Pounds per 100 Lbs. Coal	Cost per Mill. Gal.
1	21.37	144.5	737,460	19,720,000	13,650,000	$2.06
2	28.87	185	716,406	24,650,000	13,330,000	2.82
3	41.97	216	712,800	33,800,000	15,650,000	3.88

West Engine

5	30.25	227	697,620	24,070,000	10,600,000	2.37
6.	38.43	259	697,500	29,770,000	11,490,000	2.67

*Not including suction lift.

During the first eleven months of 1907 the expense of running this main pumping station was as follows: Engineers' wages, $1,863.31; firemen's wages, $1,036.99; repairs to machinery, $233.66; repairs to building, $32.49; fuel, $2,444.25; hauling fuel, $178.83; supplies, about $50.

Besides the main pumping tank there are also two auxiliary plants. One of these consists of two Shone ejectors, each with a capacity of 500 gallons. These are operated by compressed air pumped through a pipe line over a mile long from the main station. Difficulty is sometimes experienced by the air line freezing, due to the sudden expansion of the air as it exhausts, at which time it is necessary to thaw this out with torches. A peculiar thing about this is that the most trouble with freezing is experienced during a thaw rather than during colder weather.

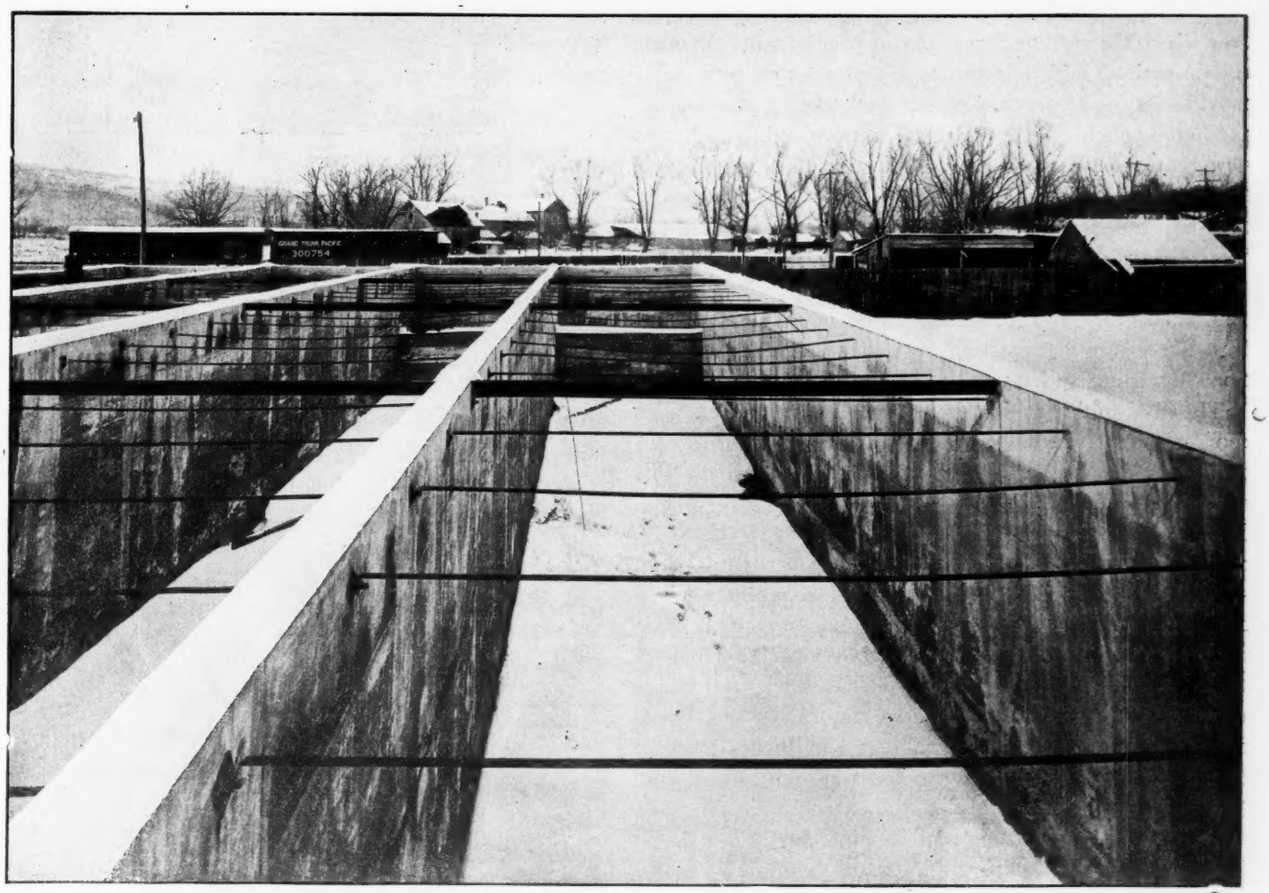
The other auxiliary plant is known as the Titus Flats station and consists of a submerged centrifugal pump operated by a three-phase G. E. motor. This usually is entirely automatic, and the only care necessary is that a man should keep the oil cups filled. The pump is belted to the motor. Although the pump has become clogged with sludge and required pumping out by hand, and the armature of the motor has burned out once or twice owing to trouble on the line rather than stoppage of the pump, no great difficulty has been experienced with this plant, except that slight troubles have arisen at times due to flooding of the chamber from the outside. This would seem to indicate that the pumping machinery should be above ground. The cost of operating the Titus Flats station for the first eleven months of 1907 was $378.95, this including power and supervision.

In connection with the sewer system are two inverted syphons under the lake inlet. These have chains run through them which can be used whenever there is any clogging, but there has been very little trouble with this. In parts of the city where the main sewers are as deep as 16 feet below the surface, an auxiliary line is run for the house connections, which line is connected to the manholes.

The Septic Tanks

The plan for sewage disposal provides for eight septic tanks, but five of which are constructed as yet. These are placed side by side, an inlet channel passing along their upper ends and an outlet channel along their lower. Transversely under the centres of the tanks passes a 10-inch sludge pipe, which leads to a well, from which the sludge is pumped through an 8-inch iron suction pipe, being discharged to sludge beds through a 6-inch iron pipe. Each tank is 16 feet 7½ inches wide by 117 feet long. The bottom of each tank slopes from each end and one side, where the depth of sewage is 10 feet, to the centre of the other side, which is 6 inches lower; at which low points are outlets to the sludge drain, closed by cone valves whose handles extend above the sewage.

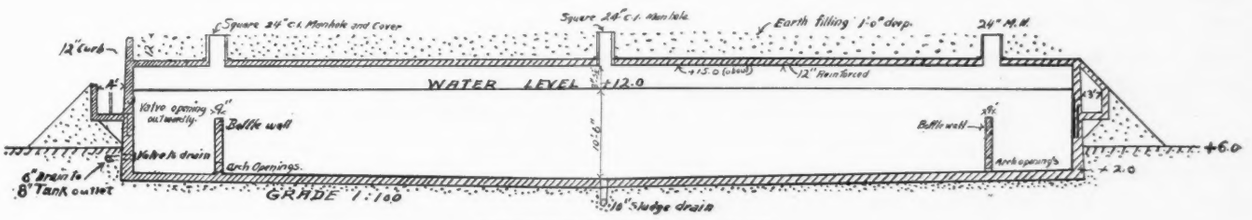
The sewage enters through a vertical 14-inch pipe into a sand pit, the top of the pipe extending seven feet above the bottom of the pit, which is 12 feet below the overflows, into the distributing channel. From this sand pit, which is in the middle of the distributing channel, the sewage enters said channel and from this enters the septic tanks through two inlets in each tank. The distributing channel slopes 1:100 from the inlet to each end, where is an



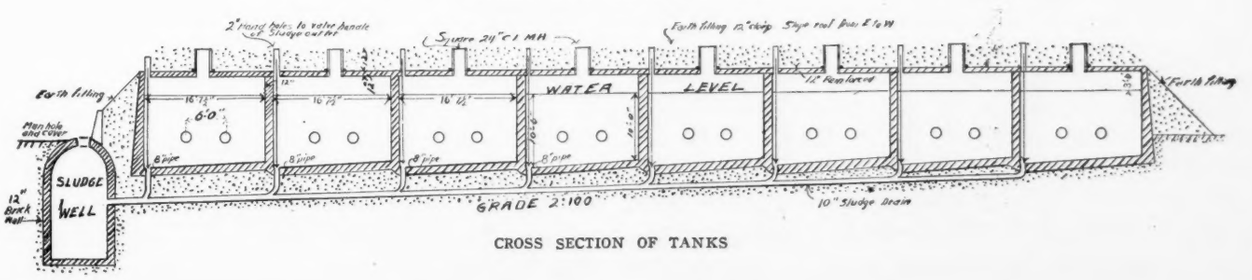
VIEW LENGTHWISE OF TANKS, SHOWING OUTLET END, BAFFLE WALL, TIE RODS AND SLUDGE VALVE ROD

outlet for draining it. Each inlet to the tanks is formed by building a vertical line of 6-inch vitrified pipe into the end wall, a 6x6 T, with its branch at the elevation of the sewage in the tank, admitting the sewage from the channel to the pipe, and another 6x6 T, 5 feet lower, discharging it into the tank. The distributing channel is three feet wide and sewage flows in it to a depth of three feet. Ten feet from the end wall is a transverse baffle wall seven feet high and nine inches thick, reinforced with expanded metal and containing at the floor level three 12x24 openings in each tank. A similar baffle wall is located ten feet from the lower end of the tank.

In the lower end wall of each tank are two openings, supplied with flap valves, each opening two feet horizontal by one foot vertical, the tops of these openings being two feet below the level of the sewage. These openings give into a discharge channel, two feet wide, which extends across the ends of all of the tanks. The outer wall of this channel extends upward to the desired level of the sewage in the tanks, acting as a weir. Its inner top edge is rounded and the outer is provided with a steel plate



LONGITUDINAL SECTION OF TANK



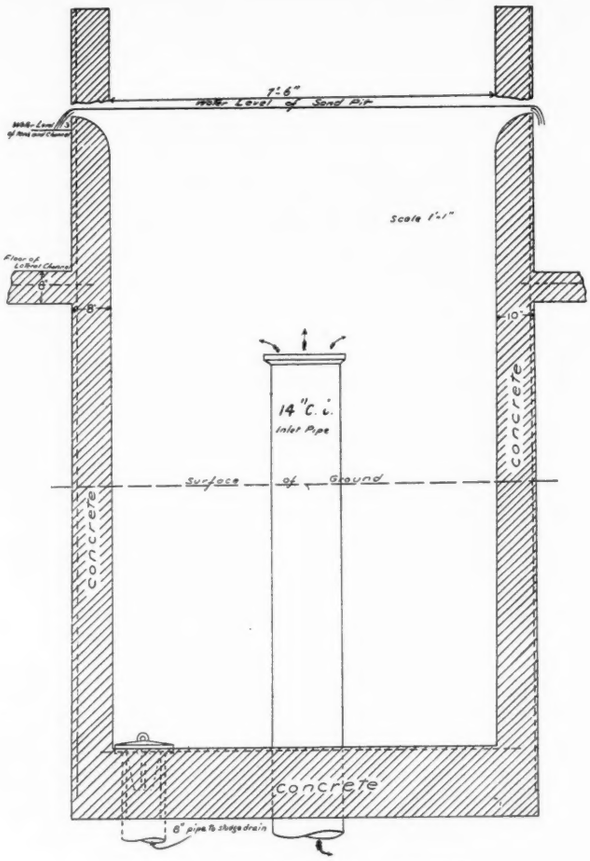
CROSS SECTION OF TANKS

over which the sewage flows into another parallel channel, at one end of which is the outlet of 18-inch pipe. To provide for the emergency of this outlet being insufficient, another 14-inch overflow outlet is provided, which the sewage reaches by an overflow weir 8½ inches higher than the 18-inch outlet. The distributing channel is covered, but is provided with manholes. The outlet channels are uncovered.

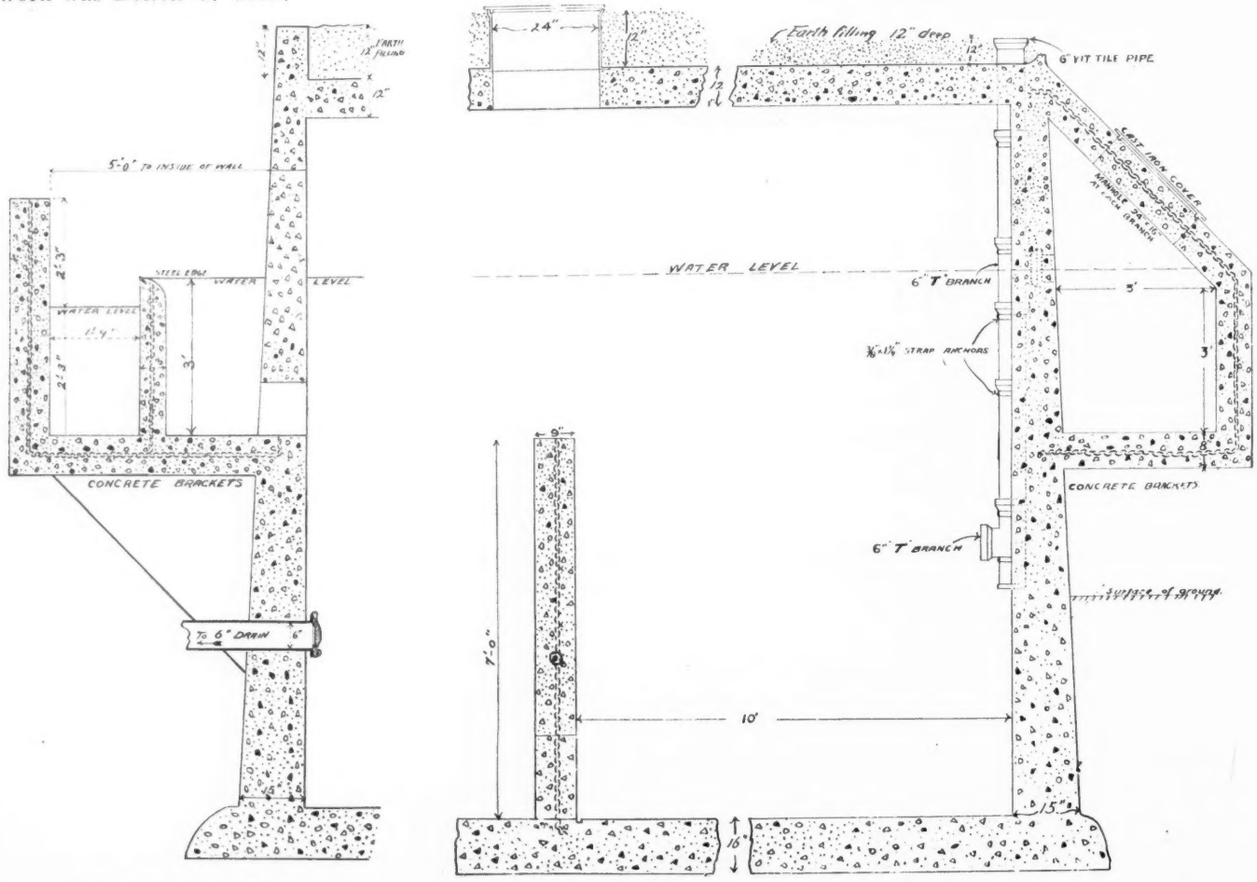
Prof. Ogden believes that, owing to the considerable dilution of the sewage, there will be no offensive odors from these tanks, the action of which will be a combination of settling and septic action.

The five tanks so far built were not provided with roofs, and it is intended to operate them in this condition for the present winter, at least, and learn by this experience whether it will be necessary to cover them. The design provides for roofs of concrete 12 inches thick, reinforced with ⅝-inch square Johnson corrugated bars, spaced 5 inches on centers and imbedded one inch below the under surface, the roof of each tank to contain three manholes, one in the center and one over each baffle wall.

The floor of each tank is 16 inches thick, reinforced with ¾-inch square bars, 5 inches c. to c. and 1 inch below the top surface. The end walls are 15 inches thick at the bottom and 12 inches at the top, reinforced with ½-inch square Johnson bars, 5 inches c. to c. and 1¼ inches from both inside and outside surfaces. Reinforcement is used also in the walls and bottom of the distributing and outlet channels. The contractor for this work was Bolton G. Coon.



LONGITUDINAL SECTION OF SANDPIT



OUTLET END OF TANK

INLET END OF TANK

AUGUSTA'S BOARD OF HEALTH

Excellent Health Conditions Maintained—Control of Smallpox, Typhoid, Malarial and Other Fevers—Vital Statistics—Meat and Milk Inspection

THE Board of Health of Augusta, Ga., has obtained a reputation throughout the Southern States for efficiency and for an enforcement of the health ordinances which have done more, it claims, to attract tourists and homeseekers to the city than everything else combined. The death rate of both white and colored population is believed to be as low as that of any other Southern city, the colored death rate having been reduced from 36.68 per 1,000 to 25.06 in five years. Sanitation is even more necessary in Southern cities than in Northern, since smallpox and malarial, yellow and other fevers are more prevalent there, and the colored population is especially susceptible to tuberculosis; while typhoid fever, diphtheria and other infectious diseases are as much to be guarded against South as North.

City physicians of Augusta are required to vaccinate any unvaccinated person who will allow it. A smallpox hospital is maintained, where the inmates are allowed every pleasure and liberty consistent with their own welfare and the public's safety. Its maintenance costs $2,500 to $3,000 a year. During four years previous to the last report no deaths from this disease had occurred. Most of the cases were traced to visitors from surrounding country districts or villages.

Every physician who discovers a case of typhoid fever is required to report it at once to the Board of Health, giving the source of the water supply and name of the dairy supplying milk. Tuberculosis is reported in very few cases, although the Board is endeavoring to obtain city ordinances requiring such reports.

The reduction of deaths from malarial fever has been very great during recent years. During 1906 especially strenuous efforts were made to exterminate mosquitoes. The use of kerosene in sand traps and on all stagnant water was continued from May 1 to November, and during the same period a disinfecting cart was in constant service treating 1,650 sewer inlets and drains at short intervals, by which millions of mosquitoes were destroyed. This was an exceedingly wet summer, the increase of mosquitoes in undrained lands was enormous, and malaria was unusually prevalent. On one plantation eleven strong negro men died of the disease in less than two weeks. River swamp plantations and brick yards were responsible for a large percentage of the cases among the negroes, many of the laborers there having homes in the city.

The Board of Health also flushes sewers, inspects plumbing, meat and milk and looks after garbage disposal and general sanitation.

The present ordinances concerning contagious and infectious diseases, vital statistics and meat and milk regulations were adopted in 1904. These class as contagious diseases smallpox, scarlet fever, diphtheria, membranous croup, whooping cough and measles, and name, as methods of contracting them, exposure to one ill of the malady, or to fabrics, bedding, clothing, stuffed furniture, carpets, toys, books etc. containing the germs of the disease or entering a room infected with the germs, none being disseminated by the atmosphere outside of the infected domicile. The ordinances provide for the reporting and control of diseases as follows:

Sec. 31. Whenever a physician shall find that any person whom he is called to visit is infected with smallpox, scarlet fever, diphtheria, measles, membranous croup, yellow fever, erysipelas, chicken pox, whooping cough, consumption, typhoid fever or any other infectious or contagious disease hereafter decided by this Board to be dangerous to public health, such physician shall give immediate notice over telephone to the office of the Board of Health, and within twenty-four hours thereafter make out properly the postal card furnished by the Board of Health for full report of such cases.

In any of the above named diseases, except perhaps typhoid fever and consumption, the physician shall at once cause the case to be isolated.

Every physician who shall refuse or neglect to give such notice, in the manner above prescribed, shall be taken before the Recorder's Court for punishment.

Sec. 43. The proprietor of any house, tenement house, lodging house, boarding house, or hotel in this city, in the event of any person staying in such house becoming afflicted with yellow fever, smallpox, scarlet fever, diphtheria, membranous croup or measles, shall at once notify the Board of Health office of the same in writing or by telephone. For a failure to give such notice, the person so offending shall be liable to such punishment as the Recorder's Court may inflict.

Sec. 44. Any person afflicted with any disease mentioned in Sec. 43, and who shall wilfully expose himself in any street, public place, or conveyance, or any person having the care, charge or control of such diseased person, or any owner or driver of any such conveyance who does not immediately provide for the disinfection of the same, under directions furnished by this Board, after it has conveyed such diseased person; and any person who gives, lends, sells, transmits, or exposes any clothing, bedding, rags, or other things which have been exposed to infection, shall, on conviction, be liable to such penalty as the Recorder may inflict.

Sec. 32. No teacher in any private or public school in this city shall permit any scholar therein in whose family smallpox, chicken pox, whooping cough, scarlet fever, measles, diphtheria, membranous croup, yellow fever or cholera is prevailing, to attend school until a physician shall certify that there is no longer any danger of such scholar being affected. Teachers shall be diligent in ascertaining if or not their scholars comply with this section. Any teacher refusing or neglecting to obey this section shall be presented to the Recorder's Court for punishment.

This law applies to teachers as well as to pupils.

Parents in whose families either of the above named diseases exist, are liable to heavy fines should they permit their children to attend school until after termination of the disease, and thorough disinfection of the patient and domicile.

As a part of the ordinance is given a description of preventive measures to be observed by physicians, nurses and citizens generally which limitations of space prevent our quoting.

Another ordinance provides for the reporting by clergymen, magistrates or others of all marriages, giving name, age, color, occupation, birthplace and legal residence of each party and date of marriage. By physician, midwife or other in charge of or attendance at every birth, giving date, sex and color, physical condition, with full name, nativity and residence of parents and mother's maiden name. Every physician, accoucheur and midwife must be registered, and will be subject to a fine of $10 to $100, or imprisonment for not exceeding thirty days, or both, for violation of the above. The Board must be notified of every death by the attending physician within

twelve hours, and within forty-eight hours a signed report must be filed, giving name, age, sex, color, nativity, occupation, condition (as to marriage), residence and date and cause of death. The Coroner or President of the Board of Health only may sign certificates in cases of sudden death. The Board will issue permits for burial on presentation of such certificates and no person in charge of any cemetery in the city is to bury, nor is any person or railroad or other company to remove, any body unless such permit is presented.

The inspector of milk and meat is to condemn any decayed or stale fruit or vegetables, unwholesome meat or other article of food, and cause the same to be removed as garbage; and a penalty of not over $100 or ninety days is incurred by exposing such food for sale, or refusing to allow inspection, or to destroy condemned food. In addition the inspector is to examine and condemn, if necessary, animals intended for slaughtering. He also is to inspect milk, and all places and vehicles from which it is sold, with reference to cleanliness and sanitation. Every delivery wagon must have painted on each side, in letters at least four inches high, the name and location of the dairy where the milk carried was obtained. Every seller of milk must have a permit from the Board of Health.

The ordinances themselves contain few, if any, unusual features which would account for exceptionally good sanitation in the city, but it would appear from the reports that the Board is unusually efficient and diligent in enforcing them; at no meeting during the three years previous to the last report was there less than a quorum of the fourteen members present, and ordinarily all were present. The Mayor and Council gave the Board full support in every way, which speaks well both for them and for the Board. The Board consists of the Mayor and five members of the health committee of Council, ex-officio, a chemist and two physicians at large, and a representative from each of the five wards, one of the last being, in the present Board, a physician.

BACTERIAL ANALYSES AND TEMPERATURE

In the thirty-eighth annual report of the Massachusetts State Board of Health, Stephen DeM. Gage, Biologist of the Lawrence Experiment Station, reports the results of investigations conducted there upon the value of determinations of the numbers of bacteria by counts of agar and litmus-lactose-agar plates incubated for short periods at temperatures of 20°, 30°, 40° and 50° C. As a result of these investigations he presents certain conclusions, which we give herewith, prefaced by general considerations of the desirability of modifications in the ordinary methods of bacterial analyses.

With the inception of bacterial methods of water analysis it was believed that a determination of the numbers of bacteria would prove a good index to the character of a water. As the variety of bacteria in waters has become better understood, however, it has come to be recognized that the counts of the number of bacteria developing on gelatin or agar plates, while usually indicating in some measure whether the water is good or bad, are occasionally entirely at variance with the facts. Determinations of specific types of bacteria, such as the colon, sporogenes and sewage streptococcus groups, have proved of very great value in aiding us to make a correct interpretation of our bacterial counts, but even these tests are not infallible, and may at times lead us into error.

The chemist makes determinations of six or more different factors, and knowing the influence which pollution may exert on each factor, and upon their relation to one another, he is able to make an interpretation of the significance of the complete analysis with a considerable degree of accuracy. On the other hand, the bacteriologist usually determines collectively the number of bacteria, and perhaps makes a qualitative test for some one type. Should the chemist confine himself to a determination of the total nitrogen in a sample, instead of expressing that element in terms of albuminoid ammonia, free ammonia, nitrates and nitrites, with perhaps an additional qualitative test for chlorine, his interpretation would be on much the same plane as that of the bacteriologist. He would still have one advantage, however, in that he could complete his analysis and arrive at some sort of a conclusion within a few hours after the sample was received, while the determinations of bacteria would require some days. In order that the bacterial determinations may reach the same plane of usefulness as the chemical analysis, it is essential that the procedures be so modified that they shall yield more complete information regarding the various kinds of bacteria in the water under examination, and that they shall yield that information within a reasonably short time. As several days must elapse before the bacterial tests can be completed, the results when obtained may have passed their usefulness. If, however, we can so modify our procedure that the varied character of the bacteria in waters of different classes may be quickly and accurately recognized, the value of bacterial water analysis will be enormously increased. Much of this information may be obtained by the use of selective media, selective temperatures or by a proper combination of the two.

By the use of litmus-lactose-agar in place of agar or gelatin we obtain similar counts of total bacteria, and in addition are able to separate those bacteria into two groups, which do and do not produce acid fermentation of lactose, and the numbers of the two classes of bacteria so obtained indicate more completely the character of the water than would the numbers of either class alone. By incubating our plates at temperatures of 30° or 40° C. we are able to obtain counts in twelve to eighteen hours, which counts, while smaller than those on plates incubated for a longer period at a lower temperature, appear to be fully as significant. If we increase our number of determinations by incubating duplicate plates at two or more temperatures, the various results and the ratios between

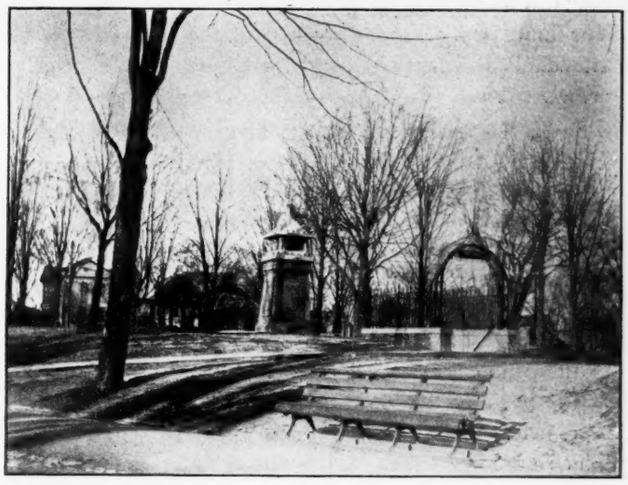
them furnish a check upon one another, in addition to increasing the available data upon which to base an interpretation.

The distinction between polluted waters and waters of good quality is more sharply marked by counts at 30°C. than is the case with counts at 20°C. Determinations at this temperature appear to be especially applicable to the control of water filters, since the relative quality of the raw and filtered waters and the expression of the removal of bacteria by those filters are practically identical with determinations made at 20°C., and, in addition, they become available within a few hours after the sample is collected.

The numbers of bacteria determined at 40°C. are of great value, since in this class of bacteria must be included the bacillus of typhoid fever and other water-borne diseases. The significance of the acid-producing bacteria determined at this temperature, that is to say, bacteria of the colon type, is well known. The evidence contained in this report will indicate that considerable numbers of bacteria of the colon type may occur in waters which are supposedly of good quality judging from its total bacterial content, while on other occasions positive tests for B. coli may be caused by isolated organisms of that type. In such cases no distinction could be made between the relatively good and the suspicious samples either by the numbers of bacteria or by the qualitative colon tests, but the necessary information would be obtained by counts at 40°C. Determinations of B. coli by the plate method in the effluents of water filters agree with determinations by the fermentation test in about half of the samples, the isolation of B. coli being prevented quite frequently in this class of samples by the presence of the sewage streptococcus type, which would be included in the colon type under the plate method.

The results of determinations of the bacteria developing at 50°C. are too few in number to enable us to draw any definite conclusions as to their value. Bacteria of this type appear to be quite common in sewages and in the effluents from contact and trickling filters, while they are present only in small numbers in the effluents from sand filters and water filters, and are entirely absent from well and pond waters of good quality.

Determinations of bacteria and B. coli on the Merrimac River water extending over a period of some nine years enable us to study the bacteria-B. coli ratios and to ascertain with some accuracy the cause of fluctuations. In general, it may be stated that the proportion of B. coli in the river water is greater when the water is warm than when it is cold, and that the effect of heavy rains or melting snow, causing floods in the river, is to produce a diminution both in the numbers and in the proportion of B. coli. The effect of the amount of oxygen in the water is also noticeable, both bacteria and B. coli being at a maximum when the water contained between 0.50 and 0.75 parts of dissolved oxygen, decreasing as the oxygen value varied above or below that amount, the B. coli decreasing much more rapidly in either case than did the total number of bacteria.



VENTILATOR AND ENTRANCE, LAWRENCE CONVENIENCE STATION

MUNICIPAL CONVENIENCE STATION

Description of Station Just Completed at Lawrence, Mass.—Plans and Materials of Construction—Cost—Maintenance

THE City of Lawrence, Mass., has recently completed an underground Public Convenience Station which is regarded as one of the best municipal stations in any of the minor cities of America. Early in 1907 the City Council, appreciating the absurdity of a city of nearly 100,000 inhabitants being dependent for toilet facilities upon hotels, railway stations, department stores and a few antiquated cast-iron public urinals located on the curb line of streets and which had to be closed in winter to prevent freezing, voted an appropriation for the erection of the first public station in the city.

This station is situated on the Common, opposite City Hall, and was built from plans and specifications prepared by the Engineering Department at a total cost of $13,200. As no building of similar nature had ever before been designed by this department, several New England cities where public stations were already installed were visited and a thorough study made of the features of each. The excellent design of the Lawrence station is in a measure due to the courteous officials in charge of or who designed these various stations, and who pointed out the defects to be avoided.

In the issue of this journal for Nov. 13, 1907, is a description of an above ground station in Washington, D. C., which is a model of its class, but the cost of which would undoubtedly be prohibitive in smaller cities. The Worcester, Mass., station, described in the Dec. 18 number, is in many respects similar to the Lawrence one, but in no city visited has a station of equal size and accommodations been constructed at so low a figure as that in Lawrence.

No part of the building shows above ground except the copper covered vent stack and the stairway entrances, enclosed in a neat wrought iron fence carrying arches and transparent signs. The outside walls of the building are entirely of concrete and the roof is of flat reinforced concrete, slab pattern, with two concrete sky-

lights in each main room, fitted with Luxfer prism glass. The inner walls are of brick, and the main rooms and attendants' rooms are lined with enamel tile brick of ordinary brick size, the lower courses being chocolate colored and all the others white. The concrete ceilings finished in white enamel paint, the floors of marble terrazo and the white brick walls impart to the whole a bright, clean and sanitary appearance.

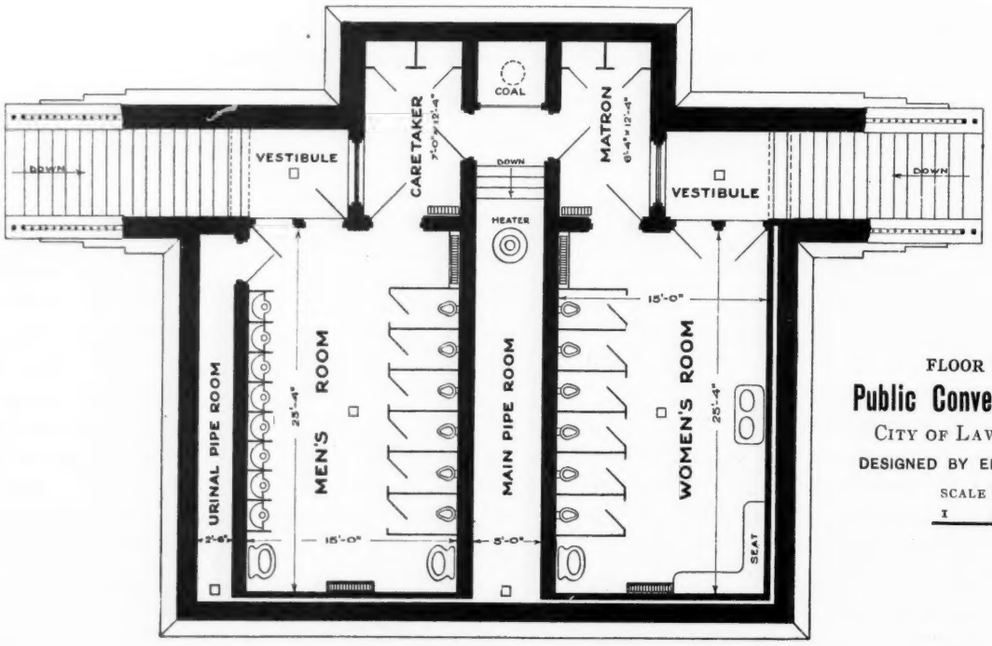
The entrances are six feet in width, depressed, enclosed by white enamel brick walls, with granite capping, the steps also being of granite and having brass hand rails. They are lighted at night by a cluster of electric lamps in the ceiling of the vestibule and by the transparencies at the head of the stairs which are open at the bottom. The main rooms are lighted by electric lamps, all of which are enclosed in Holophane globes. All woodwork is of quartered oak, the vestibule doors being fitted with plate glass panels, and the marble work is of the best quality white Italian, highly polished. The doors to the water closets are hung on spring hinges and remain open when closets are not in use.

All urinal and water closet waste pipes discharge into mains located in pipe rooms which are easy of access in case of stoppage. In the main pipe room are located also the vent ducts, tanks, electric switch board, a coal bunker of 6 tons capacity and the heaters. The building is heated by the Gurney hot water system, there being two radiators in each main room enclosed in marble with registers, and one open radiator in each attendant's room. The heater is equipped with a brass coil in the fire box, which supplies hot water to the lavatories when the heater is running, and a small auxiliary "jacket" heater is connected with the system for supplying hot water during the summer months. Both heaters are connected to a smoke pipe which runs through the main ventilating flue, heating the same for ventilating purposes.

The entire ventilation of the building is effected through the water closet local vents, which are exceptionally large and which unite, in the main pipe room, with the main vent which is heated by the smoke pipe. Fresh air is admitted at the bottom of the vestibule doors through brass registers fitted with slides. The main rooms and vestibules are supplied with floor drains and the entire building may be washed out with a hose if desired.

MEN'S ROOM, LAWRENCE CONVENIENCE STATION

The urinals, lavatories and water closet bowls are of glazed porcelain, the urinals and water closets being separated by marble partitions. The urinals are built with integral drip set flush with the surface of the floor, and all parts of the back, sides and bottom are thoroughly flushed by a nickel plated brass spreader at the top. All tanks are hidden from view, being located in the pipe rooms. The water closets are lever flush, raised porcelain front, "cut out" seat pattern, and both urinals and closets



FLOOR PLAN OF

Public Convenience Station

CITY OF LAWRENCE, MASS.

DESIGNED BY ENGINEERING DEPT.

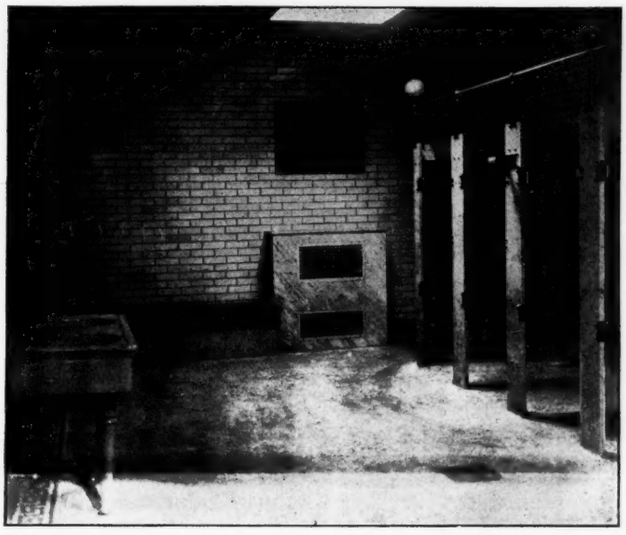
SCALE OF FEET.

1 5 10

are the nearest approach to sanitary perfection obtainable.

In the men's room are six water closets, two lavatories and eight urinals, and in the women's room six water closets, one single and one double lavatory and one oak seat with marble front and ends. The attendants' rooms are provided with wardrobes and closets and are lighted and ventilated by transom windows opening into the vestibules.

The station is open from 7.30 A.M. to 11.30 P.M. and requires two men and two women attendants, each working eight hours a day. The use of the closets, urinals and lavatories is entirely free, the attendants being allowed to collect small fees for the use of soap and towels which they furnish. If required, any of the compartments may be afterward changed to private ones by simply attaching locks.



WOMEN'S ROOM, LAWRENCE CONVENIENCE STATION

As is usually the case where any new public improvement is undertaken, some adverse criticism was made at first, claiming there was no need of a municipal convenience station; but the increasing numbers using such a clean and well cared for station is the best evidence of its worth.

A Greater Birmingham

AT a special election the citizens have voted for a greater Birmingham, which will add to that city territories whose present population is about 75,000, the population of the city of Birmingham now being about 50,000. Seven municipalities are included in the absorption and add their assets and debts to those which Birmingham now possesses. The merger does not take effect until October 1, 1909, and if the present normal increase in population of the seven municipalities continues unchanged, the 1910 census will give Greater Birmingham a population of over 150,000. In Birmingham the vote for the merger was about 90 per cent. in its favor, but in the smaller municipalities the vote was about a tie.

The area added extends seven miles to the east, seven miles to the west, four miles to the north, and two miles to the south. In addition to the above, a movement is on foot to annex Ensley, a city of 20,000 population, and it is probable that this will be effected before 1910.

Practically all these suburbs which are to be annexed are bonded to their limits under their present charters. In the matter of street improvements, the smaller towns have been seriously handicapped by the lack of power to raise money. None of the outlying towns have paved any of their streets and only North Birmingham and Pratt City own their water works plants. The former also owns and operates its electric light plant. While the nearer suburbs have pavements and concrete sidewalks on their principal streets, their sewerage systems are incomplete. Jefferson county recently completed 25 miles of trunk sewer to which the annexed towns will be able to connect. The tax rates of the suburbs will be increased 50 to 100 per cent. after annexation, but in return they will receive many privileges not now enjoyed, such as fire and police protection.

The bonded indebtedness of Birmingham is $2,324,000. The city owns much valuable property, especially in the shape of parks, the assets being estimated at over $4,000,000. The outside towns will become shareholders in the indebtedness and assets of Birmingham and in return will bring in much more bonded indebtedness than tangible assets.

At the last session of the Legislature an effort was made to have a law enacted to give the city authority to condemn the property of the Birmingham Water Works Company's plant and issue bonds for its purchase. This was held unconstitutional on the ground that the water works property was in seven different municipalities, and that it would be illegal for the city to sell water to other cities. As these seven will all form a part of Greater Birmingham, this objection will disappear, and it is proposed to then acquire this plant.

Bracket Lamps for Street Lighting

THE Superintendent of Lamps of Boston, Mass., Dennis J. Hern, reports that the bracket lamps attached to houses and fences in alleys and narrow streets in that city are frequently damaged by teams striking against them, or the mantles are broken by the constant slamming of gates and doors, and thus making it almost impossible to render efficient service. It is, therefore, the intention of the department to discontinue as far as practicable the use of iron lamp brackets and to substitute iron lamp-posts in place of the same.

The new triple-mantle boulevard gas lamps of 180-candlepower, which style of lamp has been adopted to a large extent in lighting the boulevards and important streets, have given good satisfaction.

A single-mantle 60-candlepower lamp is being placed in the alleys and courts throughout the city where there are entrances to tenement houses, and this has already shown good effect in the suppression of vice and the cleanliness of those localities.

BASIS OF LIGHTING CONTRACTS

Amount of Gas or Electric Energy Rather than Candlepower—Arguments for Use of Such Units in Street Lighting Contracts

By ALTON D. ADAMS

Contracts for street lighting should provide for the delivery of definite volumes of gas or amounts of electric energy rather than for definite illumination.

A short reason for this provision is that private consumers are able to obtain gas and electric service on a meter basis, and there appears no good reason why cities and towns should not be in an equally good situation.

When the gas is paid for by the cubic foot and the electric energy by the kilowatt-hour, the private consumer and the municipality alike are able to take advantage of any increase in the efficiency of lamps or to make such changes in lamps as are found to be desirable.

As a rule, in street lighting, as often in commercial lighting, the company will furnish and care for the lamps, so that the contract for street lighting should specify the exact type of lamp in which the gas or the electric energy is to be consumed. In the case of electric lighting, the contract should clearly state whether direct or alternating current is to be delivered to the lamps, for in the arc lamp much higher efficiency is obtained with the direct than with the alternating current, and some incandescent lamps are not suited for operation with alternating current.

For open flame gas lamps both the number of cubic feet per hour and the candlepower of the gas when burned at the standard rate of five cubic feet per hour should be specified. If mantle burners are used the contract should state the cubic feet of gas to be consumed by each per hour, and also the heating power of the gas in British thermal units per cubic foot.

The watts of alternating or direct current to be consumed in each arc and each incandescent lamp should be made the essence of the contract for electric street lighting, unless the energy delivered to the lighting circuit is metered. Where the contract is to run more than one year, it should provide for a change of the lamps to other types, at the option of the city or town, and the expense incident to the change should be very clearly provided for. The rate for electric lighting, whether stated at so much per lamp per year, or otherwise, should also be named as the sum to which the energy consumed by the lamp or delivered to the lighting circuits will amount at the agreed price per kilowatt-hour.

Besides the obvious advantage to the municipality of buying gas or electric energy rather than light, and thus being in a position to take advantage of advances in the efficiency of lamps, there are other important reasons for making rates on the basis of the foot of gas and the kilowatt-hour.

Candlepower is a much used and much abused term. During many years after the dawn of electric lighting, open arc lamps operated with direct current were the only type in use, and the two common sizes were generally described by electrical men as of 2,000 and 1,200 candlepower respectively, though neither lamp was capable of giving an illumination to correspond with its rating, whether this was taken to mean spherical, hemispherical or maximum candlepower.

The majority of these old open arc lamps have now been replaced by inclosed arcs, and these latter are often specified by some strange sort of courtesy as of 2,000 candlepower, though the alternating type give much less light than the stronger of the open arcs.

More recently flame arc lamps and metallic arcs have come onto the market, and some of these give much greater candlepowers than the old open arcs, but their ratings have not been reduced to any standard basis, as that of spherical or hemispherical candlepower, and the more conservative figures usually given out relate to the maximum candlepowers.

With all this uncertainty in candlepower ratings goes the further important fact that the utility of an arc lamp for street lighting depends even more on the direction of the strongest light rays than on the maximum, spherical or hemispherical candlepower, because the minimum light between lamps is the strongest factor in fixing their number.

For incandescent street lamps of both the gas and electric types the candlepowers usually given are the maximum in some particular instance, but this direction will vary by 90 degrees in different lamps. Moreover, the nominal candlepowers of both mantle gas burners and of incandescent electric lamps are based on the performance of these mantles and lamps when new, and there is a very material decrease of candlepower as the period of use lengthens. For this last named reason the maximum number of hours that a gas mantle or incandescent electric lamp may remain in use on the streets should always be specified.

With these numerous and intricate questions of candlepower to be decided, and with expert agents of the gas and electric companies on one side of the table and non-expert agents of the municipality on the other side, there can be little doubt as to who will get the best of the bargain, if candlepower is made the basis of the contract. Even when both parties to the contract have equally able representatives, a contract based on candlepower is very liable to present a number of uncertain points for possible litigation.

If gas or electric energy, on the other hand, delivered either to the street circuits or to the lamps themselves, is made the basis of the contract, the chance of misunderstandings and disputes is reduced to a minimum. Of course, proper care and operation of the gas and electric lamps implies the delivery of such candlepower as the types of lamp in use are able to give, but this candlepower will vary from minute to minute with arc lamps, and from week to week

with mantle and electric incandescent lamps, even when the supply of gas or electric energy is all that can be desired.

A city or town and also the lighting company should have some fairly easy and accurate means of showing by records and tests whether the thing contracted for between them is being delivered, and when the contract is for so many kilowatt-hours or so many cubic feet of gas, this result is readily reached. If the contract is to deliver so many candlepower hours, however, there is no such thing as a record of past operation on this point, and the only resort is to illumination tests. Such tests on lamps in the streets involve a high degree of skill and much labor, and are apt to be lacking in accuracy as to arc lamps. In the case of electric street lighting on a kilowatt hour basis, the meters on street circuits record the energy sent into them, and tests at each lamp are easily and accurately made.

Many electric companies now record the energy delivered to street lighting circuits at the generating station for their own information, and such records with a stipulation fixing the minimum energy to be consumed in each lamp may well be made the basis of a street lighting contract.

Since 1894 the electric arc street lamps in Boston have been operated under contracts that require a minimum number of watts at each arc, and, since 1898, there has been the additional requirement that the electric company record its output for street lamps and that such records be open to the inspection of an engineer on behalf of the city. Prior to 1898 open arc lamps were operated under these contracts, and since about that date the street lighting has been done with inclosed arcs.

Under contracts that took effect in 1893, and remained in force about six years, the gas street lamps in Boston were operated under contracts by which the city paid for the gas used at certain prices per 1,000 feet, also certain other sums for the care of the lamps, and each of these lamps was required to consume four feet of gas per hour.

In 1894, when no material improvement in the efficiency of electric arc lamps was in sight, and when it was felt that the inaccurate description of arc lamps as of 2,000 candlepower might lead to undesirable litigation, the National Electric Light Association adopted a resolution to the effect that an arc consuming 450 watts should be taken to be of 2,000 nominal candlepower. By this resolution the watts consumed by the arc were approved as the basis of street lighting contracts.

During the past year it has been evident to those in the electric industries that both arc and incandescent lamps of greatly increased efficiency would presently be available for street lighting. Under these conditions it is obviously for the advantage of electric stations to contract to deliver a given amount of light rather than a given amount of energy, since one kilowatt-hour will now develop twice as much light as before.

As might have been expected from the above facts, the National Electric Light Association adopted a report favorable to street lighting specifications based on illumination at the Washington convention of last year.

Municipalities will serve their interests by pondering well on the reasons for this change of front since 1894 by the lighting companies before making contracts for street lamps.

TESTING GAS METERS

THE New York Public Service Commission have, as one of their duties, the inspection, approving and sealing of every meter used in Greater New York. Before beginning this work they obtained a report from Alfred E. Forstall, of New York, as to the methods to be employed. In his report Mr. Forstall says: "I would advise that the only test of a gas meter made by you be that of accuracy for registration when the meter is passing gas at the rate of six cubic feet per hour for each 'light' of its size.

"This test, which is known technically as the check test, is made by connecting the meter (with its outlet capped by a check, in which is a circular orifice of such a size that when the pressure on the meter is adjusted to about .15 inch of water air will pass through this orifice, and consequently through the meter, at the rate named above) to a 'meter prover' and passing from the prover through the meter the amount of air required to cause the proving hand on the meter dial to make one complete revolution. This revolution corresponds to the registration on the meter dial of a different quantity of gas which varies with the size of the meter. The meter prover, which consists of a holder—an inverted sheet metal bell, guided so as to be capable of moving freely up and down in a sheet metal tank which is filled with water to seal the otherwise open bottom of the holder—carries on the side of the holder a scale graduated in feet and tenths of a foot over its whole length and in hundredths of a foot over certain portions of its length. The difference between the readings of this scale at the beginning and end of the test shows the volume of air that has actually passed out of the holder and through the meter. The accuracy of the graduation of the scale on the meter prover holder is assured by having the graduations marked in the first instance as the result of a careful calibration of the holder by means of a cubic foot bottle certified by the National Bureau of Standards at Washington and by periodical testing by means of such a cubic foot bottle in order to provide against any error arising through deformation of the holder. The prover holders are made with working capacities varying from 2 cubic feet up to 10 cubic feet, the five cubic foot size being the most common."

Working at a bench equipment with two provers, a good active man should be able to test and seal nine three-light meters, or twelve five-light meters per hour, it being possible to do more of the five-light than of the three-light, because in both cases two cubic feet of air has to be passed through the meter," which can be done through the five-light at the rate of 30 cubic feet per hour, but through the three-light at the rate of only 18 cubic feet. These figures are based upon giving each meter only one test. Where second tests are required, not more than seven three-light or ten five-light meters per hour can be tested.

The instructions of the Commission for making tests require that a meter shall remain in the testing station not less than five hours before testing in order that the temperature may be equalized. Meters tested on complaint should always be given two tests, and if these do not agree a third test should be made; the average of all tests being taken as representing the condition of the meter.

The following are the instructions for the actual testing of the meters:

Before beginning work each morning the Tester should see that the temperature of the water in the prover is the same as that of the air in the room, the temperature of the water being adjusted if these temperatures are not the same. For the purpose of observing these temperatures two thermometers must be provided, one being placed in the water and the other hung up in the air, and these two thermometers should be checked against each other to see that when exposed to the same conditions their readings are the same. The Tester must also be satisfied that the meters which he has to test have been in the immediate vicinity of the provers for a sufficient length of time to have acquired the temperature of the air surrounding the provers. While testing, no direct sunlight should be allowed to strike either the provers or the meters to be tested and the observations of the temperature of the water and of the air shall be made at least every fifteen minutes.

Meters are to be given the check test only, but while making this test the size of the dial is to be observed, and it is to be noted whether this dial is of the proper size for the size of the meter.

After the meter has been connected to the prover, a test for the tightness of the connections must be made by closing the meter outlet with the hand and throwing the prover cock wide open, so that full pressure is thrown on all the connections and the meter, and then shutting the prover cock and watching the pressure gauge to see that the pressure holds. If the pressure does not hold, the connections must be gone over and another test for tightness made before the test of the meter is begun.

From 1 cubic foot to 1½ cubic feet of air must be passed through the meter before beginning the test. The object of this is to make certain that the meter is working freely before the test begins.

The proving hand on the dial must be brought to, and stopped at, one of the divisions on the up stroke of this dial and the test started with the hand at such a division and concluded when the hand again reaches this division after making a complete revolution.

Meters showing on the first test a proof of either 99 or 101, or one between these limits, are to be passed on this single test.

Meters showing on the first test a proof between 98½ and 99, or between 101 and 101½, or exactly 98½ or 101½, are to be given a second test, the average of the prover readings and of the percentages of errors for the two tests being recorded and the meter being passed, provided the average proof is more than 98 and not more than 102.

Meters showing on the first test a proof between 98 and 98½, or between 101½ and 102, or exactly 102, are to be given a second test, passing 4 cubic feet through three and five-light meters on this second test, and are to be passed if the average proof shown by the two tests is above 98 and not more than 102, the average of the prover readings reduced to the normal 2 feet basis for three and five-light meters, and the average of the percentages of error for the two tests being recorded. If necessary, a third test may be made with such meters, but only when there is some doubt as to the accuracy of the first two tests. If the third test is made the average of all three tests is to be taken as being correct, and the meter is to be passed or rejected on this average.

Meters showing a proof of 98, or less than 98, or more than 102 on the first test, or as an average of either two or three tests, as specified above, are to be rejected and returned for readjustment by the company presenting them for test.

The bell of the meter prover should be drawn to its full height and the scales wiped the last thing at the end of each day's work and left up during the night. The object of this is to prevent discoloration of the body of the bell and of the scales. Care should be taken that the cocks are shut off tight so that the bell will remain up all night, and by taking the reading on the scale at the time of stopping work and again when work is begun the next morning a test is obtained of the tightness of the prover and the connections up to the prover cock and of this cock itself. In case these readings show that the prover is not tight the leak should be found and remedied before making any tests.

The record of every meter tested shall be recorded in full in the Meter Test Record Book, and in the "remarks" column a note shall be made to show whether the meter is a new, repaired, complaint or removed meter, wherever possible.

Every meter ascertained to be correct within the limits allowed by law shall be sealed, and no meter shall be sealed which has been found to be incorrect according to the preceding instructions. The Tester should see that the ring is properly placed upon the meter, so that the ring will overlap the seam on the cover. In no case shall a meter be sealed unless the ring is properly placed. Sufficient wax should be poured into the ring so as to permit the making of a clear impression of the seal, and the impression should be clear and easily legible.

ENGLISH SLIDING SCALE FOR GAS

Plan Now Used in Boston—Price Reduced Under It from 90 to 80 Cents—How It Was Done—Future Possibilities

By WM. D. MARKS
Consulting Engineer and Statistician

WHEN, at the instance of the celebrated gas engineer, Livesy, the sliding scale of prices for gas and dividends on capital stock was adopted by the London gas companies, no rational and practical theory of its working was given. The theory was generally said, however, to be an equal division of profits between the consumer and the stockholder.

For instance, in the first case the standard price of gas was fixed and the standard per cent. of dividend also. Whenever a company saw fit to reduce the price of gas one penny (2.03 cents) per thousand, it was allowed to increase its dividends ¼ of 1 per cent. in respect of 10 per cent. stock, or 7-40 of 1 per cent. in respect of 7 per cent. capital and ⅛ of 1 per cent. in respect of 5 per cent. capital.

While this rule has operated with great mutual satisfaction in London, it is purely empirical. No reference is made to the capital invested per annual thousand cubic feet of sales, although the dividends are in the end paid upon it.

The sliding scale is now in use by the Boston Consolidated Gas Co.; the standard price of 18 candlepower gas being 90 cents per M, the standard divi-

dend 7 per cent., and for each reduction of 5 cents per M in the price of gas the company is allowed to increase its dividend one per cent. Under these conditions the Boston Consolidated Gas Co. has reduced the price of gas to 80 cents per M and increased its dividend to 9 per cent. on its stock, after successfully reaching a dividend of 8 per cent. on its stock with gas at 85 cents.

The popular idea is that in order to do this superhuman skill must be attained in reducing the cost of delivering gas. Such, however, is not the case. Progress in Boston has been made by reducing the price of gas first; this has resulted in a rapid increase of total sales.

As the capitalization, $15,124,600, has remained constant, the increased sale has reduced the capital per thousand sold (and consequently the amount of manufacturing profit per thousand required to pay the increased dividends) without necessarily requiring an actual reduction in the cost per M of gas delivered at the consumers' meters.

This can be shown most briefly and generally by means of an algebraic formula:

Let C = the total investment in dollars
" S = the total yearly sales in thousands
" p = the standard price of gas in cents per M
" c = the cost of gas in cents per M
" r = the reduction of price in cents per M
" % = per cent. of standard dividends

It is a fact that the cost of gas in Boston is about 56 cents per thousand.

We can write the standard equation as follows:

$$(1) \quad \frac{C}{S} - \% = p - c$$

The values of these quantities were approximately as follows:

C = $15,000,000
S = 3,000,000 M
% = 7
p = 90 cents
c = 56 cents

For the dividend we have about 7 per cent. of $5.00 = 35 cents.

For the manufacturing profit we have 90 — 56 = 34 cents.

The first reduction below the standard (90 cents) price was to 85 cents with a dividend of 8 per cent.

Again stating this case algebraically, we have:

$$(2) \quad \frac{C}{S} - (\% + 1) = p - r - c$$

The sales of gas for the year ending June 30, 1907, were 4,233,256 M.

The cost of gas was about 56 cents.

The capitalization was about $15,000,000.

For the dividend we have about 8 per cent. of $3.57 = 28.6 cents.

For the manufacturing profit we have 90 — 5 — 56 cents = 29 cents.

Here is practical proof that without any reduction in the cost of delivering gas an increased dividend was rendered possible merely by reducing the price of gas and increasing its sales thereby.

This is a point which never seems to have been accentuated by the various writers on the sliding scale. The Boston Consolidated Gas Co. seems to have realized it, for it has again reduced the price of gas to 80 cents for the year ending June 30, 1908. Its managers are evidently confident of an increase of sales to about 5,600,000 M or see their way to a reduction of the cost of gas below its present 56 cents per M.

It does not appear probable that with carbureted water gas process and old-fashioned coal gas retorts delivery of 18 candlepower of gas can be made at lower than 47 cents cash cost in Boston.

If we assume these figures in equation (2) we have for the dividend about 9 per cent. of $2.67 = 24 cents per M.

For the manufacturing profit 90 — 10 — 47 cents = 33 cents per M.

This allows a surplus of 9 cents per M, or about $500,000, as the result of intelligent effort on a basis already proved practically possible both as to increase of sales and possible reduction of cost of gas due to lowering its price to 80 cents.

The wise State legislation procured by the efforts of Louis H. Brandeis, followed by the skilled and honorable management of Manager Richards, can be duplicated in every metropolis of the United States.

Why is it not realized?

Covington Public Work

THE City Engineer of Covington, Ky., W. E. Gunn, in his report for 1907 states that the street improvements made during the year, including brick streets and cement sidewalks as well as sewer construction, aggregated $132,000—the largest sum ever expended by the city for these purposes in one year. Mr. Gunn was succeeded last month as City Engineer by Harry Meiners, after having served eight years in that capacity, during which time $700,000 was expended for street and sewer construction. One notable feature of this expenditure has been that it has all been met out of current revenues. The city has issued no bonds for thirteen years and during this period has decreased its bonded indebtedness from $2,450,000 to $2,050,000. In 1895 the debt per capita was $61.50, while at the present time it is about $40. During this time, in addition to the street improvements, the city has built a City Hall, costing $211,000, and a school costing $60,000, and all the improvements amount to more than $1,000,000. The tax rate is continuously growing less, having been during the past six years $1.845, $1.80, $1.80, $1.75, $1.75, $1.70 respectively.

THE HEAD OF THE POLICE DEPARTMENT

Reasons for Non-Professional Head — Commissioner or Board—Non-Partisan vs. Bi-Partisan Board—Single Commissioner Preferable

By LEONHARD FELIX FULD, M.A., LL.M.

The desire of the people to safeguard the liberty of the individual, which it was feared would be imperiled by a body of professional policemen under the sole control of a professional chief, as well as the desire to secure in the larger cities a man of better character and education than the average police officer, have resulted in the appointment of a non-professional head of department in most of the cities of the United States. That the individual liberty of the citizen has been more carefully safeguarded by a non-professional head of department than by a professional chief of police is undoubted; the professional chief, for example, has little sympathy for the citizen who complains of having been clubbed by an officer. Then, too, the non-professional head of department is certainly better educated than the officers of the uniformed force, but whether he is generally of better character is a question which is open to dispute. Criticisms of corrupt police administration when carefully analyzed are directed either to corruption or to gross inefficiency on the part of the non-professional head; the professional officers, it is true, are said to do most of the actual work of blackmail, but however much we may condemn their conduct from the point of view of morality, we must remember that they are soldiers whose first duty it is to obey and that the subsistence of their families depends upon their retaining their position on the police force. The non-professional head of the police department in our American cities is frequently a professional politician. In America we have not yet succeeded in obtaining as great administrative efficiency in municipal government as have the people of England and Germany, and since the police department offers the greatest opportunity for corruption it is the department in which administrative inefficiency shows itself most plainly. An efficient administration of the police department invariably arouses resentment among the criminal classes and dissatisfaction among those who, though not professional criminals, desire to be unmolested when violating minor municipal police regulations. In a large city the latter class will frequently turn out of office the political party responsible for a rigid enforcement of the police laws, while the criminal class, together with its unconscious supporters, consisting for the most part of ignorant men whose votes can be easily influenced, will restore to power the political party that is willing to execute the laws without harshness. The execution of the laws without harshness means, in our American system, neglecting to enforce some of the laws on the statute books. Which laws shall be enforced and which shall not be enforced, when a law shall be enforced and when not, are matters left to the discretion of the non-professional head of department. When we consider the class of men frequently selected for the position of non-professional head of department in America, we are not at all surprised that this discretion is exercised at the best by favoring citizens of the dominant political party and at the worst by extorting money and levying blackmail. Moreover, the non-professional head of department, having but a short tenure of office, generally either two or four years, has neither the opportunity nor the desire to learn the technical details of the police business; in other words, he never is and seldom becomes an expert. It should be borne in mind that while this description of the American non-professional head of department is a true description in the United States generally, there are some exceptions both as to time and as to place. Yet the fact that the people refer with emphasis to the fact that Commissioner Blank is an honest man shows distinctly that an honest head of the police department is something unusual, or at least is not of frequent occurrence. Likewise, it should be remembered that the non-professional head of the police department is neither more inefficient nor more corrupt than the heads of other departments in American cities; the police department only displays any latent administrative inefficiency more clearly and furnishes a more fertile field for administrative corruption.

The non-professional control over the police force may be exercised either by a single commissioner or by a board of police. The historical development of this control in the United States has been from the board system to the single commissioner system. The advantages of the board system are that it insures carefulness of deliberation, regard for all sides of the case, and an impartial decision—in other words, it is the ideal organization for a judicial authority. The single commissioner system, on the other hand, is well fitted for the discharge of duties which require energy and rapidity of action and for which it is desirable to have a fixed and well-defined responsibility. No department of the city government requires more rapid or more energetic or more responsible action than does the police, and yet in most American cities the board system is still in use. The explanation of this condition is historical. On the continent of Europe the head of the police department is generally a single man, as he logically should be. The people would no more think of placing their police under the control of a board than they would of organizing their army on this plan. The same is true of the Metropolitan Police of London. The board system of police administration arose in the other cities of England under the Municipal Corporations Act of 1835, by which there was given to a committee of the municipal council, called the watch committee, the non-professional control of the police. The establishment of this committee was due not so much to any conscious belief that the board system was the best system to apply to police administration as to the fact that a committee was the only system of administration consistent with the general principles of the Municipal Corporations Act, which consolidated all municipal functions in the council. In the United States the board system of police administration

has been followed since the first modern police force was organized in New York in 1853. Its introduction in the United States, however, was probably a historical accident. At the time of the establishment of modern police organizations the board system was believed to be the proper form of municipal government. Nearly all the municipal departments were under the control of boards, and so the police department was also placed in charge of a board without considering whether the board system was particularly appropriate to police administration. The board system thus established in New York was quickly copied all over the country, and although the tendency at the present day is to change to the single commissioner system, which is the system that is scientifically and practically correct, yet its development in America has thus far been slow.

Efficient police administration is a question of honesty rather than of party politics. In an ideal city the board, if there is a board, should be strictly non-partisan. The prevention of blackmail and corruption, the repression of crime and violence, the safeguarding of life and property, securing honest elections and rewarding efficient and punishing inefficient police service are not and cannot properly be made questions of party difference. In other words, a police force can be wisely and properly administered only upon a non-partisan basis. But, although the members of the board ought not to let partisan considerations influence their action, yet in the practical administration of a city it is necessary and not altogether undesirable that all the members of the police board be of the dominant political party—that is, that it be a partisan board. If the Democratic party succeeds in a city election and a Democratic police board is appointed the people can hold the Democratic party directly responsible for unsatisfactory police conditions. This is the only justification for a partisan police board. But partisan police boards have proved unsatisfactory in American cities. In spite of the fact that such a board is in thorough sympathy with the dominant political party and such party can be held responsible for its acts, the fact that such partisan boards interfere illegally with the elections by the intimidation of the voters of the opposite party and that they grant immunity to members of their own party while persecuting petty lawbreakers of a political creed different from their own has led to their gradual disappearance in America. The next step in the development of the non-professional head of the police department was the bi-partisan board, than which a more vicious or foolish system was never inaugurated. It modeled the government of the police force somewhat on the lines of the Polish Parliament, and it was avowedly designed to make it difficult to get a majority; but, lest such a majority should be obtained, it was provided generally that not more than two members should be of the same political faith. This practically insured a deadlock if the members voted according to their political opinions, which they frequently did. As a matter of fact, the question of administrative efficiency was not even considered by the legislators who introduced these bi-partisan boards; they were a party device for securing a party monopoly of patronage and spoils and for dividing them between the managers of the great parties conspiring together. Bi-partisan boards would seem grotesquely absurd to us all were it not for the fact that they are clothed with a glamour of justice by party illusion and ambition. They involve the confession that partisan zeal and activity generally disqualify men for doing justice and being honest where party interests are concerned.

The only plausible defense of the bi-partisan police board is that it prevents the police board from interfering corruptly with the elections in a manner calculated to help the dominant political party. Such police interference may take one of two forms—the intimidation of voters at the polls or the corrupt management of the election machinery. A bi-partisan board is not the proper remedy for either of these evils. Intimidation of voters is increased and not diminished by a bi-partisan board. A partisan board intimidates only the voters of the opposite party, while a bi-partisan board intimidates the voters of the two leading parties. Under such a board, it is true, the Democrats cannot intimidate the Republicans while the Democrats enjoy immunity; the Democrats will intimidate the Republicans and the Republicans the Democrats. Matters will to a certain extent be equalized, it is true, but such equalization will be the result of an increase of the evil which it is desired to remedy. A non-partisan police board would be the logical cure. As regards the corrupt management of the election machinery, the only remedy is the complete divorce of the election machinery from the police department. The administration of the elections should be in the hands of a separate department, and the activity of the police restricted to the maintenance of order at elections as at all other times. Three great objections to a bi-partisan police board still remain unanswered. Constant differences of opinion among the members of the board impede administrative action; the danger of a deadlock is increased where there are an even number of members on the board, and where there are deadlocks there is always danger of dishonest compromises between the various members of the board. Furthermore, the constitutionality of a bi-partisan board has been frequently questioned. Although it is well settled that a law which imposes any qualifications as a condition precedent to a man's eligibility to office is not violative of the general constitutional provision forbidding the State from depriving a man of life, liberty or property without due process of law, since a man has no inherent right to be eligible to any office, yet the courts in the United States have quite generally held, either as the result of a direct constitutional provision or as the result of their interpretation of certain general constitutional provisions, that not only religious, but also political opinions may not be made a test. Thus, a statute providing that a bi-partisan board of four be selected by taking two men from each of two political parties; a statute requiring that the members of a board be selected from the two leading political parties; a statute disqualifying all black Repub-

licans from holding a position in the police department; a statute requiring that the members of a board be taken in equal numbers from the two political parties represented in the City Council; a statute providing that no one be eligible for appointment as police commissioner unless a member of the political party having the highest or the next highest representation in the common council, have all been declared unconstitutional by the courts. While in rendering these decisions the courts have construed many different constitutional provisions, and the decisions have for the most part been based upon technical rules of constitutional law, the underlying principle in the minds of the judges has doubtless been that these statutes have imposed qualifications which disqualify a large number of citizens for a reason which in no way increases the efficiency of the government. Accordingly, in the case of Rogers vs. Common Council of Buffalo, the court upheld a statute providing that not more than two of a board of three civil service commissioners be selected from the same political party, since such a statute increases the efficiency of and is almost indispensable to a civil service board, and, furthermore, does not require that an applicant belong to any particular political party —in other words, it does not set up any positive political qualification. The political qualification set up by it is only negative—that after two members of the board are of any one political party, the third member cannot be of the same party, but may be of any other party.

To be efficient, the police must act quickly and decisively, particularly in times of emergency. The delay which results from the long-continued deliberation or the deadlock of a board of police is demoralizing to the police force in normal times and extremely dangerous and disastrous in times of tumult. No civilized nation would send an army into a single battle under the command of a board of generals, and yet in many American cities the police force, which is daily engaged in active service, is by a historical accident under the command of a board of commissioners. It is true that the professional head of department—the chief or superintendent—is invariably a single man, but the non-professional head of a board can and does seriously impair his power and ability to control the uniformed force. New York, by its charter of 1897, discarded the police board and tried the single police commissioner, following the example of the London Metropolitan Police. The experiment was at that time deemed exceedingly dangerous. While it was hoped that a single executive would insure prompt and effective administrative action and allow of individual responsibility, it was feared that since the power of removing the commissioner, vested in the mayor of the city or the governor of the State, or both, was a slow procedure seldom resorted to, an unscrupulous commissioner might have a practically unlimited opportunity for corruption and illicit private gain. The last few years of the nineteenth century saw the displacement of the board system of administration by the commissioner system in nearly all the departments of many American cities, and this is certainly the tendency at the present day. On the whole, too, it is a very satisfactory tendency in all of the departments of the city government, but most of all in the police department, where the board system was especially unsatisfactory.

High-Pressure Fire System for Oakland

OAKLAND, CAL., is arranging to proceed at once with the construction of an auxiliary high-pressure pumping and salt water distribution system as a further protection against fire, bids for the pumping machinery in connection with which are to be received March 18. The plant will consist of two gas engines geared to two centrifugal pumps, together with an auxiliary gas engine, pump and motor, air compressor and storage tanks, accumulator and other appurtenances. The plant will be located on the western shore of Lake Merritt. The combined capacity is to be 2,000 gallons of salt water per minute, raised against a head of 200 pounds pressure at the discharge end of the pump, the maximum suction lift being seven feet below the floor. Gas engines are called for and the fuel used will be California No. 1 engine distillate. The engines will be 4-cycle, vertical, single-acting, with three or more cylinders; the speed not to exceed 300 revoutions per minute or 750 feet piston travel per minute. At this speed each engine must develop 250 brake horse-power, also eight horse-power per hour per gallon of oil.

Pumps are to be horizontal, centrifugal or turbine pumps built for salt water use, each having a capacity of 1,000 gallons per minute. The suction will be seven inches and the discharge opening at least six inches in diameter. The impeller and driving shaft will be of bronze. The casing of cast iron will be tested to 300 pounds pressure. They must, when under full head, develop an efficiency of at least 60 per cent. of the power delivered on the pump shaft. Power will be transmitted from the engines to the pumps by gears, the driving gear to be of phosphor bronze and the driven of wrought steel. The engines are to be fitted with friction clutches to permit their starting without load.

The force main will be fourteen inches in diameter, and each pump will be connected with it by an eight-inch main provided with gate and check valves. After these have all been connected up they will be tested to 250 pounds hydraulic pressure.

An auxiliary pumping plant will be furnished and used for maintaining a pressure of fifty pounds in the force main and distributing system while the main pumps are not in operation. It will have a capacity of fifteen gallons per minute, and will be provided with an automatic controller, so that the motor will start when the pressure falls below forty pounds and stop when it reaches fifty.

It is required that one pump shall deliver its full capacity of water at the specified head within two minutes after starting, and that both pumps shall be delivering their full combined capacity within five minutes of the beginning of the test.

F. C. Turner is the City Engineer of Oakland, and we are indebted to him for this information.

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It is also desired that the facilities furnished by the reference library in this office should be widely known and freely used by those interested in municipal affairs. Visitors will be welcomed and provided with conveniences for search, and inquiries by mail will be promptly dealt with.

FEBRUARY 5, 1908.

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Make Municipal Improvements Now

"It is the best kind of public policy to make public improvements when times are dull. This was the way Andrew Carnegie arrived at his pre-eminence in the iron and steel business." This statement in an editorial in the New York *World* presents one forcible argument in favor of making this the busiest year in municipal construction which this country has seen recently. Materials and labor are obtainable on better terms now than for some years. It seems like the sensible plan to buy when goods are the cheapest, and successful business men do this. Others, and the majority, buy in prosperous times, when prices are high. Even though money demand a one per cent. higher rate of interest, if it will purchase ten per cent. more of what the city wants, there is evidently economy in the transaction. In addition to this, work is given to needy citizens when it is most necessary.

Police and Politics

On another page is an article treating of the relative advantages of Commissions containing several members and of single Commissioners as heads of City Police Departments, in which the author states his opinion that the single Commissioner is preferable. That the adoption of this plan does not entirely eliminate the blight which politics in its worst sense can exert on the police department is stated quite plainly by Commissioner Bingham, head of the New York Police Department, in his annual report submitted to the Mayor last month. In this he states that "the men of the force are not quite sure as to who is their real 'boss'—whether it is the 'machine' or the Commissioner. If once satisfied that it is a Commissioner with a long term, and only removable on publication of charges, they will obey him." The remedy which he suggests for this condition is a longer tenure of office for the Commissioner and the certainty that his removal from office shall be only for reasons which shall be made public. He also believes that the police should not have control of the machinery of primaries and elections, for "how is it possible, then, for citizens to expect members of the force to be free from political influence? While it is probably hopeless to mention the subject, it is none the less true, and should none the less be realized by the citizens of this city, that if the police are to be removed from political influence the whole election law will have to be radically changed."

Another obstruction to the efficiency of the force is referred to in strong terms. "Law-breaking is the easiest business and the most lucrative, for the work involved, of any business now conducted in New York. Its profits for slight efforts are enormous, and law-breaking has been able to entrench itself behind such a rampart of legislation and highly paid lawyers that the forces of law and order are placed in the astonishing position of being actually on the defensive as against the law-breakers. These law-breakers and their highly paid lawyers are so ingenious and resourceful that they many times fool even the courts into giving them protection against the police

on the ground of illegal interference or oppression. The howl of innocence is never so loud and piercing as when raised by crooks, and this includes not only the actual criminals, but their friends and protectors, the crooked politicians."

To these law-breaking and circumventing lawyers and crooked politicians he attributes the fact that it is impossible to prevent prize-fights and gambling in the city, since injunctions are actually obtained against police interference with such violations of the law.

These are plain words, and apparently indicate an honest and earnest desire to suppress these evils, regardless of political pressure. These and other statements in the report also imply a confidence in the police, as a whole, as a faithful and efficient body of men, who are doing their best under adverse conditions.

One of the evils of politics is favoritism, and it will probably be impossible to entirely eliminate this from city government, since even friendships of officials will lead to the same, and it is found in private business everywhere. But law-breaking under the protection of political influence, and organizations of thugs and municipal pirates which masquerade under the names of political parties, must be suppressed by the penitentiary and the electric chair; and none should be so ready to bring this about as the honest politicians whose occupation they have made a reproach and by-word throughout the country.

MUNICIPAL BOND SALES

Data Concerning Sales of Municipal Bonds During December by Cities of Less than 100,000 Population—Financial Statistics of Cities Listed

Name of City	Estimated Population	Actual Value of Assessable Property (estimated) Total	Per Capita	Ratio of ass'd to actual value	Bonded Debt	Sinking Fund	Net Bonded Debt Total	Per Capita	Tax Rate per $1,000 Ass'd Value	Bond Sales, December, 1907 Term of Years	Amount	Interest	Price	Basis
Compton, Cal.	1,000	$2,000,000	$2,000	30%					$14.50	1-40 ser.	$50,000	5% s.a.	Par	
San Buena Ventura, Cal.	3,118	4,000,000	1,282	39%	$167,789		$167,789	$53.81	13.00	1-20 ser.	9,000	5% s.a.	100.076	4.988
										1-15 ser.	69,000	5% s.a.		
New London, Conn.	20,000	22,364,083	1,118	67%	1,196,500	$26,500	1,170,000	58.50	16.00	30	35,000	5% s.a.	100.375	4.291
										20	75,000	4% s.a.		
El Paso, Ill.	1,500	3,500,000	2,333	10%	9,500		9,500	6.33	1.76	1-12 ser.	6,000	5%	100.25	4.954
Hammond, Ind.										13⅔ avg.	55,000	4% s.a.	Par	
Erlanger, Ky.	1,412	300,000	2,132	67%					.40	1-10 ser.	10,200	6%	Par	
Newport, Ky.											14,700		103.578	
Haverhill, Mass.	40,818	26,964,866	661	100%	1,757,000	535,644	1,221,356	29.93	15.64	20	18,000	4%	Par	
Berrien Springs, Mich.										30	19,500	5%	Par	
Hancock, Mich.	10,000	10,000,000	1,000	22%	113,000		113,000	11.30	12.50	20	5,000	5% s.a.	Par	
										19½	45,000	6% s.a.	102.44	5.794
Lansing, Mich.	30,000	13,000,000	433		200,000		200,000	6.67	10.00	3 avg.	12,000	5%	100.425	4.846
Breckenridge, Minn.	2,000	1,789,920	895	30%	35,778	942.18	34,835.82	17.42	53.80	10	4,500	5½ s.a.	100.511	5.433
Rochester, Minn.											10,000	6%	Par	
Chinook, Mont.	950				27,900	800.00	27,100	28.53	10.00	14-20 opt.	14,800	6% s.a.	Par	
New Brunswick, N. J.										10	11,000	5%	Par	
South River, N. J.										20	500	4½% s.a.	101.50	4.386
										20	9,500	4½% s.a.	101.00	4.424
										20	10,000	4½% s.a.	100.75	4.443
West New York, N. J.										29⅔	200,000	5% s.a.	Par	
Auburn, N. Y.	35,000	21,333,000	609	75%	600,000				22.00		60,000	5%	Par	
Johnstown, N. Y.										1-10 ser.	5,000	5% s.a.	Par	
No. Hempstead, N. Y.										5-10 ser.	3,000	5% s.a.	Par	
										5-14 ser.	5,000	5% s.a.	Par	
Peru, N. Y.										2	4,700	5%	Par	
Schenectady, N. Y.	75,000	50,000,000	667	70%	2,663,000	302,920	2,360,080	31.47	18.40	2-11 ser.	20,000	3½% s.a.	Par	
Scotia, N. Y.	2,820	2,225,000	792	46%	212,000				1.45	10½ avg.	6,000	5%	Par	
										13⅔ avg.	9,500	5%	Par	
										12½ avg.	8,500	5%	Par	
Troy, N. Y.	76,000	54,250,172	714	100%	3,541,679	85,779	3,455,900	45.47	17.66	8 mo.	100,000	5%	Par	
										1-20 ser.	20,000	4½%	Par	
Union, N. Y.	1,500	800,000	533	67%	20,550				17.00	5-29 ser.	32,000	5%	Par	
White Plains, N. Y.	14,500				1,397,060		1,397,060	96.35	10.51	10⅜ avg.	190,000	5½%	Par	
										1-20 ser.	30,000	5½%	Par	
Yonkers, N. Y.	68,000	60,019,750	883		5,018,682	299,600	4,719,082	69.39	24.48	2 5-6	19,500	6% s.a.	100.05	5.89
Arlington Heights, O.										1-5 ser.	582	5% s.a.	Par	
Berea, O.										5⅔ avg.	3,937	5% s.a.	Par	
										8½ avg.	1,638	5% s.a.	Par	
Bluffton, O.	2,000	1,000,000	500	50%	60,000				3.80	1-10 ser.	37,105	4½% s.a.	Par	
Bryan, O.										4½ avg.	10,000	5% s.a.	100.288	4.925
Canton, O.	45,000	60,000,000	1,333	30%	306,000		306,000	6.80	32.00	10	7,000	4%	Par	
										1-5 ser.	22,500	4½%	Par	
										5	4,000	4½%	Par	
Delaware, O.	11,000	7,000,000	636	56%	214,584	14,365	200,219	18.20	31.70	1-5 ser.	5,000	5% s.a.	100.30	4.892
Eaton, O.										6 avg.	10,000	4½% s.a.	100.37	4.428
Fremont, O.										5⅔ avg.	7,500	4½% s.a.	Par	
Galion, O.											3,000		Par	
Hamilton, O.	30,000	22,000,000	733	50%	1,064,505	54,684	1,009,821	33.66		12-21 ser.	40,000	4% s.a.	100.012	3.999
Kenton, O.										9½	8,000	4½% s.a.	100.325	4.457
										9⅔ avg.	5,000	4½% s.a.	100.10	4.487
										1½ avg.	260	5% s.a.	100.384	4.732
Portsmouth, O.										12-15 ser.	5,000	4% s.a.	100.90	3.905
										3-9 ser.		4% s.a.	100.50	3.906
South Solon, O.										2½ avg.	550	6% s.a.	104.545	3.846
Youngstown, O.	60,483	56,882,000	940	50%	1,296,112	209,167	1,086,945	17.97	29.42	2-6 ser.	7,385	5% s.a.	100.704	4.804
										2-6 ser.	10,285	5% s.a.	100.787	4.781
										2-6 ser.	7,100	5% s.a.	100.591	4.835
Monessen, Pa.										22 5-6 avg.	75,000	4½% s.a.	Par	
West York, Pa.											4,000	4½%	Par	
York, Pa.										10-30 opt.	56,000	4½% s.a.	Par	
Fort Pierre, S. D.										15	10,000	6%	102.836	5.719
Spokane, Wash.	85,000	100,000,000	1,176	60%	2,080,000				13.00	20	100,000	5% s.a.	Par	
Huntington, W. Va.										30	57,000	5%	Par	
Neenah, Wis.											20,000	5%	Par	

UNIFORM PUBLIC ACCOUNTING

Ohio Law to Secure This, and How It Is Administered—Address Before the National Association of Comptrollers and Accounting Officers

By JOSEPH T. TRACY, Municipal Deputy.

THE Act of May 12, 1902, creating the Bureau of Inspection and Supervision of Public Offices, provided that the Auditor of State, as Chief Inspector and Supervisor, should appoint three deputies, not more than two of whom should be of the same political party, a clerk, and such a number of State Examiners as were necessary to perform the duties imposed by the Act. The department was organized July 1, 1902, and has been since that date engaged in attempting to do the most important of the many pressing duties continually arising in the inspection and supervision of the over 25,000 public offices of the State coming under its supervision. The work of the Ohio bureau, which includes all State, county, city, village, township and school district officers, may well be considered under the following heads:

(a) The prescribing and installing of uniform systems of accounts and records.
(b) The prescribing and collecting of uniform public reports.
(c) The preparation of comparative statistics from verified public reports.
(d) The annual inspection of all public offices.
(e) The supervision of all public offices.

We believe you will be interested in knowing what has been accomplished by the department in each of the above fields of public endeavor, so I will give you the results in as concise a form as the extent thereof will admit.

UNIFORM PUBLIC ACCOUNTS

Uniform accounts have been prescribed and are generally in use in the auditing departments of the 88 counties, 70 cities, 720 villages, 2,555 school districts and the 1,347 townships of the State, resulting in a very marked improvement in the keeping of the public accounts. In consequence, the work of inspection is greatly facilitated and made more thorough. Under many of the old systems in use in the cities and counties of our State it was wholly impossible to arrive at definite results from the accounts as kept, or to fix responsibility for errors or defalcations discovered. The improvement in the financial condition of the cities of Ohio is due in a large measure to the information given to the officials through the use of the accounting system prescribed by the department. In addition, forms of accounts have been prescribed for the sinking fund of cities and villages and many of the county offices. Also, various departmental accounts and records which were necessary to verify revenue collections have been installed.

UNIFORM REPORTS

Schedules for reporting by the auditing departments of counties, cities and villages have been prescribed by the bureau and the several officials instructed in their use. The accounting systems have been formulated so as to produce the necessary information from which to compile the report, and the department can have accurate and reliable returns on file in its office within thirty days after the close of the fiscal year.

Comparative statistics based upon the city reports of 1904, 1905 and 1906 have been isssued by the department and proved of great interest to officials and citizens interested in municipal affairs. We have collected reports from the 88 counties of the State and are now engaged in the compilation of comparative statistics gathered from these reports.

INSPECTION OF PUBLIC OFFICES

This feature of our work has been so important to the public as to require practically all the time of the three Supervisors during the past three years in aiding and instructing our Examiners so as to secure reliable and uniform audits throughout the State. The aggregate amount of the findings returned by our Examiners, consisting of illegal fees taxed, collected and retained by public officials, failure of collectors to fully account for revenues collected, and illegal payments from public treasuries amount to over one million dollars, of which probably over one-half has been restored to the public funds. Under the present law the matter of restitution is left to local officials, who, in too many instances for the good of the public service, are in sympathy with the delinquent brethren, and in consequence our findings are not vigorously enforced or are wholly set at naught. There will be an amendment presented to the next General Assembly which will give to the Attorney General of the State full supervision of all legal actions arising by reason of findings returned by State Examiners and requiring the approval of this department of all settlements made by local officials. We have 34 men engaged in making audits and the force is inadequate to even meet the demands of the public for inspection, much less to comply with the law requiring annual audits. If the public are to have faith in the thoroughness and impartial reliability of these examinations, it must come through its confidence in the honesty and ability of the men engaged in the field of work. These should be men of clean personal habits, of absolute integrity, of ability as accountants and of extensive knowledge of the laws relating to public affairs. They must be tactful in their association with the officials undergoing investigation, else there will be unnecessary friction that will greatly retard the progress of their work. They must work hard that the true facts may be disclosed, and then have the ability to express the results of their audit in a report, clear, concise and comprehensible in its statements. We hope to be able, after the next session of the Legislature, to offer better remuneration to these faithful public servants. It has been impossible for us to secure an adequate force of well-trained men to comply fully with this portion of our work, so we have simply been attending to what we believe to be the most necessary part, and gradually extending our audits more and more into details as the installation of improved records and accounts permits.

SUPERVISION OF PUBLIC OFFICES

While it is probably true that the work of the department is judged by the general public by the direct results as shown in the reports of our State Examiners, yet I am quite sure that more real good to the public service has been accomplished indirectly through our work of supervision in perfecting the accounts, in securing uniform reports, in compiling reliable statistics, in advices to local officials, in construing indefinite laws, in recommending corrective legislation and in inaugurating reforms as to methods of conducting public business by the financial agents of the various political subdivisions of the State than in the dollars restored to the public treasuries.

In conclusion let me assure you that our work is only in its infancy and that the ultimate success of the movement for uniform public accounts and State supervision of public offices depends in a large measure upon an active, vigorous public sentiment that will demand a full compliance on the part of local officials with the rules and regulations promulgated by the State department. The only way to secure and retain the public confidence, which is the true foundation of all public sentiment, is to faithfully and impartially perform the duties of office. This we believe we have done and in consequence we feel assured we have public sentiment behind us in our work.

Washington's Shade Trees

THE report of the Superintendent of Parking of Washington, D. C., which has just been published, states that during the year ending June 30, 1907, 2,574 trees were set out and 1,111 were removed, the total number of trees on the streets and avenues of the district at the end of the year being 92,706. Ten varieties of trees were planted, namely, American Elms, Gingko, American Lindens, Norway Maples, Pin Oaks, Pyramidal Oaks, Red Oaks, Silver Maples, Sugar Maples and Sycamores. A large number of Locust and Carolina Poplars are being removed and replaced by better varieties, these trees being considered undesirable, chiefly because they require frequent trimming, there being an increased necessity of this as they advance in age. Silver Maples are not being planted except to fill in gaps and extend existing rows of this kind of tree, but are instead being removed from the streets to make way for more suitable kinds; these trees being more prone to injury by brisk winds than many other variety and the brittle nature of their branches necessitating the expenditure of much time and money to keep them in good condition. Of the various trees removed, 495 were dead, decayed and dangerous, 195 displaced by buildings, street locations or other improvements, 83 because of destruction by storms and 338 for miscellaneous causes.

"The commission was constantly in receipt of requests for the removal of trees from the owners of business property who desire an unobstructed space between the street and their building for the purpose of displaying signs advertising their business. Such requests are not granted; if they were, Washington, instead of being a Forest City, as it now is, would soon be denuded of trees on streets where they are probably needed most for shade purposes."

Seventy-one trees died as the direct result of injury by horses, being in many cases completely girdled, an injury which even the hardiest cannot for such injury by horses.

Sixty-four trees were killed by escaping gas, so survive. This evil has been considerably checked by an inspector with police authority, who, during the first six months of the year, made 54 arrests, resulting in $438 collected in fines, for responsibility far as the department could discover. In the southeast section of the city entire blocks of trees have been killed and the ground so impregnated with poisonous gas as to preclude the possibility of maintaining young trees until all the affected earth immediately adjacent has been removed. However well directed, attempts to purify the soil are not always successful and repetitions of the work are frequently necessary to secure a healthy growing area for the roots. In one case the gas company was required to replace a whole block of main which had killed all the trees within its limits, following which new trees were planted, which remained in good condition. It is hoped to compel the removal of other leaky mains in other sections of the city in the future, as fast as their location is discovered.

Handling Sidewalk Snow

A DETAIL of snow removal from city streets, which has been used in Washington, D. C., for some time, is about to be tried in certain sections of Philadelphia, Mayor Reyburn having investigated its operation in Washington and found it apparently satisfactory. The plan is that merely of piling the snow from the sidewalks on the outer edge of the sidewalk rather than in the street. It is probably applicable only to those streets where the sidewalk width will not be so contracted by the pile of snow as to interfere with foot traffic thereon. The advantage claimed for it is that the gutters will remain open and that street traffic will not be so seriously interfered with as it is at present by the piles of snow along the curb. Dr. A. C. Abbott, Chief of the Bureau of Health, states that he and his neighbors have been practicing this and found it satisfactory. "The criticism has been made," says Dr. Abbott, "that in a thaw the melted snow would run over the pavements and freeze. But the pavements slope toward the gutter, and snow is much like a sponge and holds the water so that what runs off will all go towards the street, that side being lowest." It was said that the police in two of Philadelphia's residential sections will be instructed to endeavor to have the property-owners try this method after the next snow storm.

NEWS OF THE MUNICIPALITIES

Divers Subjects of General Interest and Their Treatment by City Councils and Officials—Streets, Water Works, Lighting and Sanitary Matters—Police and Fire Items—Government and Finance

ROADS AND PAVEMENTS

Interstate Highway

Boston, Mass.—The present year will see the practical completion of a continuous highway of modern construction extending from New York to the western Maine border and the heart of the White mountain region in New Hampshire. Sections of this roadway have been built in three States during the last decade, with the main object always in view. During the past year the State of Connecticut has completed an important link by straightening and reducing the grades of a section of road about 4,000 feet long near Greenwich at an expense of $28,000. Only a few sections of uncompleted road now remain and there seems to be no doubt that the end of the year will see it all finished.

Improvement Bonds Beyond Debt Limit

Cleveland, O.—Resolutions have been introduced in Council calling for a special election to authorize the issue of bonds to the amount of $950,000 in excess of the regular 4 per cent. limit of assessed valuation. Of this amount $725,000 is to be spent for sewers and $225,000 to pay the city's share of paving 200 streets, which, with the property owner's share, will cost $1,600,000. The sewer work will consist of intercepting sewer connections in the vicinity of East Fortieth street and northern extension of sewers emptying into the lake further south.

Quick Financial Legislation

Dayton, O.—A measure calling for a bond issue of $15,000 passed Council, under suspension of the rules, to improve the unpaved streets of the city. The city will be put to no expense for advertising, the sinking fund trustees will purchase the bonds and in twelve days from the passage of the resolution, it is expected, men can be put to work.

Replacing Cedar Block

Duluth, Minn.—The annual report of City Engineer Thomas F. McGilvray gives the following figures in miles for the 1907 record of street paving: Grading, 117.1; gravel, 56.89; macadam, 29.62; cedar block, 20.23; vitrified brick, 1.43; asphalt, 1.44; tar macadam, 6.32; creosoted blocks, .071. Much of the old cedar block pavement has now been replaced and there are only eleven miles of that pavement in the city.

Municipal Paving Plant Wanted

Indianapolis, Ind.—At a conference between Mayor Bookwalter, City Engineer Blaine H. Miller, members of the Board of Public Works and Finance Committee of the City Council, the question of establishing a municipal asphalt repair plant was considered and decided in the affirmative. Specifications for a plant, similar to that recently built at Columbus, O., will be prepared, and bids called for as soon as possible. The plant will have a maximum capacity of 1,000 yards per day. The cost of the plant is estimated at $13,500, which, with the labor of erecting and cost of land, will bring the total investment up to $20,000 or $25,000.

Crude Oil for Roads

Toledo, O.—A method of improving roads has been devised by the Pope-Toledo Co. and has proved of practical value to the roads about its plant, which are heavily traveled. The company uses large quantities of crude oil in furnaces for treating steel. The sediment from the oil used in the heaters is sprinkled with an ordinary sprinkling can over the surface of the roads. Three treatments a season, it is said, make the roadbeds waterproof, lay the dust and prevent ruts, breaking of embankments and other defects.

SEWERAGE AND SANITATION

For Public Baths

Charleston, S. C.—A bill permitting the establishment of public baths in cities of over 20,000 inhabitants has been introduced in the Legislature. The bill provides that the cities may establish and maintain such number of public baths as the local Board of Health may determine. Each bath shall be kept open not less than fourteen hours a day and both hot and cold water shall be provided. The maintenance of river and ocean baths is not to be deemed a compliance with this bill. Rates for the use of baths and regulations may be made by the city.

Is Sewer Contract Valid?

Cincinnati, O.—Over $20,000 worth of work has been done on a sewer contract amounting to $80,000 by Thomas R. Strack, and now the validity of the contract is questioned. It appears that the original ordinance and specifications called for 3 1-2 and 3 3-4 foot pipes, but the specifications on which bids were received called for 2 1-2, 3, 3 1-4 and 4 foot pipes. Mr. Strack was the only bidder. City Solicitor Ballard is of the opinion that the contract is invalid. Council will probably be asked to pass a new ordinance providing for a sewer in accordance with the specifications under which the work is now being done.

Anti-tuberculosis Campaign.

Syracuse, N. Y.—With an appropriation of $5,000 included in the tax budget, the city will begin its official fight against tuberculosis. Before detailed plans are adopted, it is planned to visit Boston, Mass., where the municipal government is making a systematic fight on lines somewhat different from those adopted by Health Commissioner Darlington, of New York City. At any rate, an independent clinic, over which the city will have complete control, will be opened.

House Drains Overtaxed

Trenton, N. J.—In order to prevent the sewer system from becoming entirely inadequate, City Engineer Abram Swan, Jr., states that it will be necessary to order all surface water drains disconnected from the sewers, which, by the way, were not originally intended for that purpose. A house to house inspection will be made in parts of the city, and property owners will be ordered to disconnect water spouts, storm water and house drainage.

Mortality Rates of National Capital

Washington, D. C.—The report of Dr. William C. Woodward, Health Officer of the District, gives the death rate of the city as 19.25 per thousand, as compared with 19.35 for the previous year, the total number being 6,342. The death rate for the white population increased from 15.46 to 15.55 and that of the colored population decreased from 28.81 to 28.22. Mortality from pulmonary tuberculosis fell from 781 to 750, while deaths from pneumonia increased from 503 to 537. The deaths from typhoid were 114 as compared with 162 the previous year. Mortality from diphtheria decreased from 420 to 411. The greatest number of deaths during months occurred in December, the total being 640.

WATER WORKS

Make Water Works Self-sustaining

Baltimore, Md.—The question of placing Baltimore's Water Department on a self-sustaining basis is being considered by a committee of the Merchants' and Manufacturers' Association, and data concerning charges in various cities are being compiled by Secretary Thomas G. Boggs. Hitherto it has been necessary to appropriate thousands of dollars from general funds to make up the deficiency. The use of water meters and the ending of the present system of charging rentals based on house frontages will be advocated.

City's Right to Flush Hydrants

Belfast, Me.—The city and the Belfast Water Company are engaged in a controversy over the flushing of fire hydrants. Chief Engineer Clough, under orders of Mayor E. F. Hanson, recently flushed certain hydrants, although Superintendent Walker in the name of the company forbade the city officials from removing the caps. The company claims that as there is no provision in the contract for flushing hydrants, the city has no right to do it. The Mayor taking his stand on his right to look after the general welfare of the community insists on the flushing of hydrants in order to clear the pipes of mud and deposits likely to affect the health of consumers injuriously. Pending a settlement of the controversy, the city has refused to pay hydrant rentals.

Want Water Contract Canceled

Bridgeport, Conn.—A resolution by Alderman Thomas asking City Attorney Cullinan to give an opinion as to whether the city's contract with the Bridgeport Hydraulic Company for its water supply can be annulled has been adopted by the Common Council. The question is also asked as to what the status should be if the city should fail to make the annual appropriation for water under the contract, which runs for twenty years.

Must Install Meters

Joliet, Ill.—Superintendent of Water Charles R. Foley reports as the result of an investigation that 1,000,000 gallons of water out of a total pumpage of 3,000,000 gallons daily are being wasted. Several years ago an ordinance was passed requiring the use of meters, but this was not enforced. It is now proposed to cut off the supply of water from all premises where meters are not put in at once.

Municipal Cooperation

Toledo, O.—A bill which will authorize the city of Toledo to enter into a contract to supply the village of Maumee with water has been introduced in the legislature by Representative Bassett. The bill is general in its nature and provides that any city or village may enter into contract with another municipality for supplying water, the revenue to be applied to payment of the principal and interest of water works bonds.

Transfer of Jurisdiction

Washington, D. C.—The Senate has passed the bill transferring the jurisdiction of the Washington Aqueduct, the filtration plant and appurtenances, including the conduit road, from the War Department to the District Commissioners. This will enable the local government to assume absolute control of the entire water system.

Filtration Plant Wanted

Zanesville, O.—Members of the City Council are opposed to the plan of the Chamber of Commerce of obtaining water from wells. Arrangements are being made for a trip to Columbus on the occasion of the annual meeting of the State Board of Health. The filtration plant in that city will be inspected with a view to the adoption of a similar plant for Zanesville.

Progress on Cincinnati Water Works

Cincinnati, O.—In his annual report to the Water Works Commissioners, Acting Chief Engineer Benzenberg reviewed the contract work of the past year and states that all the pumping machinery at the California station has been put in service and operates without excessive vibration, though not as economically as it will later on. The pressure of water at the 67 1-2 foot stage of the river acting on the caisson deck caused no inconvenience. The pumping machinery is practically completed and ready for testing. A high compliment is paid the Mercantile Trust Company for the energy with which it has pushed work after taking charge. The entire new water works improvement should be completed by the middle of next summer. The quality of the filtered water is excellent and free from pollution. The boiler plant of the pumping station is the only unsatisfactory part of the whole work, it being pronounced lacking in capacity and stability.

Benefit of Water Meters

Dunkirk, N. Y.—A change from the flat rate to the meter rate is causing a saving in the amount of water pumped and coal consumed at the municipal water plant. The number of gallons pumped in December was 119,862,776, a decrease of 34,173,342 gallons as compared with the same month last year, when flat rates prevailed. The greatest amount pumped any one day was 50,000 gallons less than the least amount pumped any day of December, 1906.

Plans for a Water Works

Galesburg, Ill.—A committee of seven Aldermen and seven citizens appointed by Mayor Schumway for the purpose of considering various plans for a municipal water supply has held its first meeting. Two plans were considered. First, to sink wells to the St. Peter's rock, which is believed to bear water that will rise to a level within 125 or 130 feet from the surface. Second, to go to the Mississippi river, a distance of from 30 to 45 miles, according to the point from which it is thought advisable to take water. As the elevation is but 20 feet above Galesburg, a pumping plant would have to be installed. Not less than 100 gallons per day per inhabitant will be provided.

To Cover Old Filter

Lawrence, Mass.—The City Council has passed an order directing the City Engineer to prepare plans and estimates of the cost of covering the old filter in a manner similar to the new one. This means practically the building of a new filter, as a concrete bottom, sides and ends will have to be built and columns erected to support the arches just as in the new one. The cost will probably be about $100,000, the old filter being three times as large as the new. The new filter is now being cleaned for the first time.

Water Record of a Year

Minneapolis, Minn.—Preliminary reports of the Water Works Department give the net receipts as $417,679 as compared with $401,194 for the preceding year. The expenditures were $388,796 as compared with $345,912 for 1906. During the year 16.9 miles of new mains were laid, making a total in the city of 343.9 miles. There were 6,420,027,000 gallons of water pumped, a decrease of 6,000,000 gallons as compared with 1906. On a basis of 300,000 population, the average daily consumption was 58 gallons.

Protection from Electrolytic Action

Philadelphia, Pa.—Philadelphia's water pipes are to be protected from electrolysis by a plan approved by Chief McLaughlin, of the Electrical Bureau. Near each joint a projecting lug will be set in both pipes, and these will be connected with a copper wire, which will also be carried around the pipe at the lug. This will distribute any currents reaching the pipe and render them harmless.

STREET LIGHTING AND ELECTRIC POWER

Municipal Plant Enjoined

Bay City, Mich.—A temporary injunction has been granted the Bay City Electric and Traction Company restraining the city and several electrical supply companies from entering into a contract to build an electric lighting plant at the old water works. The complainant alleges:

1. That Bay City has not been authorized to undertake such business.
2. That it has been specifically prohibited from such an undertaking.
3. That the proposed purpose is in contravention of the constitutional prohibition of internal improvements undertaken by the State or its municipal subdivisions.
4. That no money is lawfully available for these purposes.

Municipal Lighting Plant Wanted

Bridgeport, O.—There is much talk for the town of Bridgeport to own its own electric light plant, and a large number of citizens are advocating the erection of a plant at an early date. The town is now paying $4,000 a year for its fifty-six street lights and those who advocate a municipal plant advise that this money be spent for paying the interest on bonds for a new and up-to-date lighting plant owned by the town.

Economy in Consolidating Plants

Fort Worth, Tex.—As a means of curtailing the year's expenses, Commissioner Colvin has recommended the removal of the Mead light plant to the present Holly plant and combining the two. He figures that the cost of operating both plants when they are merged will not be much above that of conducting either as they now stand.

City Plant or New Contract

Lafayette, Ind.—As the contract for lighting is about to expire, the city now has the choice of renewing the contract for ten years or establishing a municipal plant. Prof. J. Walter Esterline, of Purdue University, has been engaged to prepare plans and specifications and an estimate of the cost of a suitable plant. The impression prevails that a municipal plant can be built for $45,000 as an adjunct to the city water works. Commercial current will be supplied as well as power for city lights.

City Light Plant Built by Pupils

St. Louis, Mo.—A new municipal electric plant is now in operation in the Industrial School. Connections will be made with the workhouse and two or three nearby engine houses. The cost of the plant was small, about $7,000, as the work of installation was done by the pupils. This is the fifth city electric plant, the others being those at the Water Works, Insane Asylum, City Hospital and City Hall. Nearly all the city buildings are now lighted by municipal plants.

FIRE AND POLICE

Fire Department Organized

Bosswell, Pa.—The organization of a Volunteer Fire Department was decided upon at a mass meeting. A number of former members of the Windber Fire Company will assist in the organization. Donations of from $10 to $50 are being received from business men of the town, so that the financial standing of the company seems assured. The Jenness Miller Company will give a water pressure sufficient to reach to the highest building in the town.

Automobile Fire Engine

Bridgeport, Conn.—During the month it has been in service. the automobile chemical engine has proved its value. It has answered 26 alarms, has obviated the use of steamer hose at a single fire, and often the machine has reached the scene of the alarm and returned a good distance when the horse-drawn apparatus was arriving. Fifty miles have been covered in the month's runs. At times the engine has returned from duty after answering an alarm in four minutes.

More Police or Fewer Specials

Washington, D. C.—Inferring from the statement of a number of Representatives that Congress will not grant the request of Major Richard Sylvester, Chief of Police, for 100 additional policemen, the Commissioners are looking about to economize the force now at their disposal. The attention of the District Committees of the Senate and House will be called to the fact that from 26 to 28 members of the Metropolitan force are detailed at the White House. As the Capitol and other government buildings and grounds are guarded by watchmen employed directly by the general government, there seems to be no good reason why the White House should not be similarly protected. The transfer to the regular force of about fifty special policemen detailed at the street railway crossings, who are under jurisdiction of the Chief, although paid by the railroad companies, is being considered, their places to be taken by flagmen appointed by the companies.

Fire Equipment Refused City

Johnstown, Pa.—A resolution has been introduced in Council recommending that those volunteer companies which refused to turn over to the city their engine houses, horses and equipment upon the establishment of the paid department last June be hereafter ignored by Council, the Board of Fire Commissioners and by the paid firemen. The companies which gave to the city their equipment are heartily thanked for their public spirited cooperation with the city officials.

City Cares for Apparatus

Loyalton, Cal.—The fire equipment which has been acquired by the Volunteer Fire Department during the past several years has been turned over to the city and will hereafter be cared for at its expense.

Needs of Fire Department

New York, N. Y.—Replying to a question at an investigation of the Commissioner of Accounts as to what would be necessary in order to place the New York Fire Department on a proper footing, Chief Croker states the needs as follows: A fire alarm telegraph system, estimated to cost $2,500,000; seventy-five thousand feet of new hose; the organization of fifty new fire companies and the disbanding of the remaining volunteer companies; the establishment of a School of Instruction in a building built for the purpose of training new men; repair shops for the Bronx and Richmond boroughs; a hose wagon house in West Thirtieth street for the heavy hose to be used in connection with the high pressure system.

City Hall Burned

Portland, Me.—A fire broke out in the City Hall at 2 A. M., January 24, during a snowstorm and completely destroyed the building and surrounding structures, together with the city and county records. The loss is estimated at $800,000, not including the loss of documents in the Registry of Deeds, where everything was destroyed. Money and securities in the City Treasurer's office are believed to be intact. The fire alarm apparatus was burned out first, making it necessary to send a messenger to fire headquarters to give the alarm. Records and documents dating back to British colonial times were destroyed, as well as the Greenleaf collection of law books.

Needs of Fire Department

Steelton, Pa.—Fire Chief Capella recently called a conference with the foremen and head men of the six fire companies for the purpose of looking over the borough fire situation for the coming year. The fire regulations were talked over and detailed improvements suggested. The question of supplies for the coming year was taken up and the division of the equipment considered. Any company having a special need was given the opportunity to express it in order to place the same on record.

Three Times Removed and Reinstated

Memphis, Tenn.—At a special meeting of the Board of Police and Fire Commissioners, Chief of Police George T. O'Haver, Chief of Detectives Kehoe and five patrolmen suspended by the Mayor for alleged failure to stop gambling, were reinstated by a vote of 3 to 2. They were again suspended by the Mayor, reinstated, and a third time suspended by Mayor Malone, who presided, and declared the meeting adjourned before they could be reinstated again. Immediately following the meeting, the majority members addressed a letter to Chief O'Haver urging that he assume charge of the Police Department. There is some doubt as to whether O'Haver is Chief of Police or not.

Work of Toledo Police

Toledo, O.—The annual report of Chief Knapp states that 5,262 arrests were made by the police in 1907. There were 3,682 city cases and 1,580 violations of State laws. Of the persons arrested 54 were between the ages of 70 and 80, 2,409 between the ages of 16 and 30, and 272 under 16 years of age. The greatest number of arrests, 526, was in June. No arrest was made for gambling. Three arrests were made for failure to close saloons at midnight. Arrests of auto speeders to the number of 38 were made. Property to the value of $24,540 was recovered. The sum of $1,834 was saved on the city lighting bill by the report of "dark hours." The total expenses of maintenance were $184,513.

GOVERNMENT AND FINANCE

Departments Must Live Within Incomes

Atlanta, Ga.—Mayor W. R. Joyner has announced his intention to see that all city departments keep within their appropriations. He will call for itemized statements, July 1, and if he finds that the estimates have been exceeded he will refuse to sign warrants for more than one-sixth of the usual balance during each of the last six months.

Protecting City Records

Baltimore, Md.—A fire, January 23, in a building opposite the City Hall, endangered city records and surveys that cost the city $300,000. They were filed away in the Topographical Survey Commission's rooms and were saved only by quick work, the furnishings of the room being destroyed. To protect these and other records, Mayor Mahool proposes to build fireproof vaults under the sidewalks around the City Hall. Here it is proposed to lock up the valuable records every night and keep there copies of maps and records of departments that have offices elsewhere.

Municipal Civil Service

Cleveland, O.—The Committee on Civil Service Legislation of the Cleveland Chamber of Commerce is drafting a bill to be presented at this session of the Ohio Legislature embodying plans for civil service regulations to apply to all Ohio cities. The scheme is to establish a system of appointment, promotion and removal closely following the system of the Federal government in such matters.

Vetoes Increase in His Own Salary

Marshal, Tex.—An ordinance increasing the salary of the Mayor from $100 to $125, passed by the City Council, was promptly vetoed by the Mayor, he explaining that the office was not worth the money and the city was not financially able to pay it.

Mayor Earns Salary

Sacramento, Cal.—Mayor Clinton L. White has already saved the city more than his salary for his entire term of office. He has discovered that the Sacramento Natural Gas Company has never paid any of the 3 per cent. tax on its gross earnings. This tax has accrued for a period of five years and amounts to $5,000 or $10,000.

Carpenters Demand Letting of Contracts

Philadelphia, Pa.—Mayor Reyburn's optimistic views of conditions in the city were given a rude shock when he received a call from 100 unemployed carpenters, representing an army of 4,000 of their craft. The delegate asked that the Mayor order municipal work under way or contemplated hastened. The Mayor said he thought such demonstrations unwise, as they gave the city a bad name, but he promised to do all in his power to cut the red tape that ties up municipal work and hurry up the letting of contracts, particularly those on school buildings.

Plan to Save Interest

Rochester, N. Y.—Comptroller Pond has suggested to Council that a 3 per cent. bond issue be made to take up local improvement indebtedness to the amount of $2,700,000, now being carried in the form of city notes bearing interest at the rate of nearly six per cent. Four years ago, at the beginning of Mayor Cutler's administration, $1,000,000 worth of notes were refunded in 3½ per cent. bonds. Since then the great increase in the amount of public improvements has increased the floating debt to an amount not anticipated. The Comptroller believes there will be no trouble in floating the 4 per cent. bonds in the near future.

Syracuse Tax Budget

Syracuse, N. Y.—The tax budget for 1908, its first year as a city of the first class, shows an increase of $271,886 over the previous year. The total of the budget is $2,056,386, to which is added one per cent. to cover the prospective return tax list. The rate will be nearly $20 on each $1,000. Some of the items are as follows: public works, $460,618; public safety, $589,879; education, $497,625; finance, $195,172; charities, $92,000; assessment and taxation, $19,200; Mayor's office, $7,200; Comptroller, $11,620; Treasurer, $17,250; City Clerk, $9,050; Corporation Counsel, $13,620; Municipal Court, $12,258; Police Court, $6,800; Civil Service Commission, $2,600; elections and primaries, $18,000; printing, $7,500; Public Library, $38,000; salaries of Aldermen, $14,250.

Voters Disqualified for Tax Arrears

Montreal, Canada.—Out of a total of 81,000 voters, 23,000 have been disqualified for their failure to pay water taxes by December 1.

City Taxes as Security

Winnipeg, Canada.—Mayor Ashdowne and other officials have conferred with practically all the banks in the city regarding municipal banking for 1908. The city's proposition is for the banks to provide $2,000,000 for current expenses and construction of absolutely necessary work during the present year. The 1908 taxes are offered as security for the amount. The city's overdraft on the Bank of Commerce is now about $1,000,000. This is offset by taxes still uncollected. This bank does not wish to take a portion of the 1908 account until the overdraft is reduced.

REFUSE COLLECTION AND DISPOSAL

New Garbage and Waste Ordinance

Harrisburg, Pa.—An ordinance providing rules and regulations for the collection and removal of garbage, dead animals, miscellaneous refuse and ashes and authorizing the the Sanitary Committee or Board of Health to adopt additional rules and penalties has been approved by Mayor Edward Z. Gross. In general, the ordinance follows the ordinary line of ordinances, requiring separation of wastes. One section provides that garbage, ashes and miscellaneous refuse must be kept dry, no more waste being permitted in garbage than naturally accumulates from table refuse. Seventeen sections are contained in the ordinance.

Objection to Penalties in Contract

Memphis, Tenn.—A petition to Council has been received from Dabney M. Scales, Attorney for the United States Construction and Utilization Company, which asks that the amendment to a recent contract, which the company proposes to enter into with the city, for the burning and disposal of garbage and dead animals, be changed. These amendments were made by Mayor Malone, and one in particular provides that, if the work done by the company is not satisfactory to the Legislative Council, the contract shall thereupon cease. The petition sets forth that the company proposes to invest over $30,000 in a plant in Memphis, and that this provision would virtually entail a confiscation of its plant if the Council should at any time become dissatisfied with the work done. Councilman Moran, who is Chairman of the Committee having the matter in charge, favored the retention of this and other clauses. He said if the work is not properly done the plant would become an unbearable nuisance in the community, and should be promptly shut down and abated. The matter will be considered further.

Garbage Crematory May Run

McKeesport, Pa.—The rule on Mayor William H. Coleman and other officials to show cause why they should not be held in contempt for continuing to operate the city garbage plant, after the court had enjoined them from doing so, was dismissed. After making a trip to the city and visiting the furnace, the judge dismissed the proceedings without a hearing.

Data Wanted on Incinerating Plants

Oakland, Cal.—City Council has taken the first steps in passing an ordinance appropriating $3,500 for the employment of an engineer to visit Eastern cities where garbage incinerating plants are at work to report on works suitable for local conditions. Some opposition developed from councilmen who believed that firms building incinerators would send representatives to Oakland to explain the merits of their appliances.

Cost of Cremating Garbage

Portland, Ore.—The cost of consuming garbage at the cremator is $1.37 a ton, according to the annual report of Superintendent Daggett. This is ten cents a ton higher than the cost in 1906, the increase being due to difference in cost of labor and fuel. The cost is considered as excessive owing to the old style incinerator in use. Altogether there were 10,250 tons of garbage burned and 600 tons placed in the dump. Among the debris burned were many animals, including 151 horses, 15 cows, 1,159 dogs, and 2,000 rats. For fuel 360 cords of wood and 1,918 loads of sawdust were used.

Police and a Cleaner City

Waltham, Mass.—Mayor Edward A. Walker, in beginning a crusade for a cleaner city, delivered an address before the assembled police force. He said that every patrolman would be held responsible for his route and that he must keep posted on what is going on in his locality. The anti-spitting law must also be enforced, as it is a most important matter, and the streets must be kept free from "mashers" in order that women may walk the streets without fear of being accosted. The liquor law must be enforced, and the habit of accepting cigars from druggists and others who might expect favors in return must be given up.

Street Sprinkling by City

Waterbury, Conn.—The city will go into the street sprinkling business rather extensively this year with a view to saving money. The Superintendent of Streets has been authorized to secure six street sprinkling carts, two road machines, a team and equipment. A list of streets to be sprinkled has been made out.

PARKS AND CITY BEAUTY

Recreation Piers

Baltimore, Md.—A recreation pier in the inner harbor nearest to the point where there is greatest congestion of population is an improvement in which Mayor Mahool is greatly interested. As originally proposed, this structure was to have been built in connection with the new city piers south of Pratt street, but the Mayor wishes it built between Jones Falls and Broadway. The usual plan is to be followed, a double-decked structure with the ground floor devoted to commercial purposes.

Municipal Ice Skating Rinks

Cambridge, Mass.—If the cold strengthens sufficiently this winter, Cambridge youth will enjoy safe and convenient skating on two rinks which have been prepared by Superintendent of Parks Donnelly. Each is primarily for ice hockey, being 200 by 180 feet in dimensions. One is located at the northwestern end of Cambridge Common, and the other on the Captain's Island ball ground; the former is boarded and the latter banked up with loam, to hold the water or the ice when it shall form. It is the intention of the Park Department, weather permitting, to flood the rinks each night, and to maintain an average of 12 inches of ice. The establishment of these skating grounds came about through the request of many school boys.

Parking District

Salt Lake City, Utah.—The improvement of Parking District No. 1 has been determined on by the Board of Park Commissioners. and the new Superintendent, N. Byhower, has been ordered to proceed with the work in the district, which includes all the paved section east of State street from Brigham street to Second South street. All property owners will be ordered to improve the grass plots in front of their lots. The city will improve any plots which the owners do not fix and charge the cost to them. It is proposed to include ultimately all the paved streets in parking districts.

New Park and Playground

Washington, D. C.—A public park in the northeastern section of the city, in the square bounded by Evarts, Douglas, Twenty-second street and Queens Chapel Road, Langdon, D. C., is proposed by Senator Warner, who has introduced a bill in Congress appropriating $20,000 for the purpose. A playground in Georgetown, in a tract of land west of the Jackson School, containing 43,732 square feet, has been proposed by Senator McCreary. The measures have been reported to the Commissioners for a report.

Railroad Yard for Park

Memphis, Tenn.—Mayor Malone recently made an appeal before the City Club for the conversion of the old Memphis and Charleston railroad yard into a handsome city park. Although the members of the club would not promise the matter their immediate support, they took steps to keep it alive for future consideration. The presence of tracks in the center of the city greatly mars its beauty and interposes a barrier to city traffic.

Councilman Gives Park Land

Seattle, Wash.—Councilman Ferdinand Schmitz, of the 14th Ward, which includes all of West Seattle, has presented the city with a tract of thirty acres of land for use as a park. The land lies between Olsen, Smith, Seattle and Bellevue avenues, and is valued at $40,000. Mr. Schmitz was impelled to give the land to the city by the sight of an army of unemployed marching through the street to the City Hall. The Park Board will immediately put men to work to clear and grade the property. Mr. Olmsted, who is now in Seattle, will be called upon by the Board to make plans for the improvement of the park.

RAPID TRANSIT

Chicago Union Traction Sold

Chicago, Ill.—After five years of receivership litigation the Chicago Union Traction system was sold for $2,000,000 to the Chicago Railway Company, represented by attorneys who acted for the protective committee, representing more than 95 per cent. of the securities of the North and West Side lines. The property of the Union Traction System was valued by experts at $29,000,000. The bond issues of the sub-companies, together with floating debts and receivers' certificates, amount to $37,500,000. The stock issues of these companies amount to $52,699,000

Old Bridge Cars Gone

New York, N. Y.—The old cable cars which have been hauling passengers across the Brooklyn Bridge for the last 24 years have stopped moving forever. Bridge local trolley service has now begun. The blockades due to breaking of draw bars will be a thing of the past. If a motor gives out there will still be five others on the train. Platform arrangements in the Manhattan terminal have had to be greatly changed in order to suit the new service.

City Causes Car Blockades

New Orleans, La.—Messrs. Dressel and McGivney, of the New Orleans Railway and Light Company, called upon Mayor Martin Behrman recently to explain some of the causes of the many delays in the local car service. About thirty photographs were submitted by the company to show that the majority of interruptions to service on different lines are caused by obstructions placed on the tracks by contractors for the Sewerage and Water Board in the installation of either sewer or water mains in the public streets. Each picture gave in detail conditions causing street car congestion and preventing the maintenance of regular schedules. Other interferences, it was stated, are caused by the stalling of overloaded wagons and floats on the tracks. The pictures were taken in many different parts of the city and on a large number of different car lines. After examining the photographs, Mayor Behrman stated that he fully appreciated the difficulties that the company had to contend with and pointed out that the citizens should be willing to suffer some inconveniences during the conduct of the large municipal undertakings.

Universal Transfers Wanted

Washington, D. C.—Commissioner Macfarland has addressed a letter to Chairman Smith of the House District Committee regarding the universal transfer bill now pending in the House. As a result of an investigation, the Commissioners have found that a system of universal transfers is in vogue practically in all cities where the traction lines are under control of a single corporation and in many instances free transfers are given between independent lines. The practical obstacle suggested by the traction companies would not be difficult to surmount. Referring to matters of a more general nature, Mr. Macfarland goes on to say that all questions affecting dealings with public utility corporations could be more readily dealt with if the Commissioners were given additional powers similar to the administrative powers of the Interstate Commerce Commission, and the New York Public Service Commission.

Satisfactory Trial of Air Brake

Yonkers, N. Y.—A number of prominent citizens and city officials, including Commissioner of Public Works Robert L. Ferguson and City Engineer Cooper, recently made a trip on a trolley car for the purpose of inspecting the action of an air brake with which the car was equipped. C. A. Ives, of the General Electric Company, the manufacturers, explained the operation of the brake. The trials were very satisfactory, even on Yonkers' hills. It is proposed to equip 50 cars with these brakes, which cost $275 each.

MISCELLANEOUS

Civic Center

Baltimore, Md.—The proposed civic center and consequent readjustment of streets will have the effect of preventing floods in the low-lying sections along Jones Falls, which for thirty years have been the source of annoyance and in one year alone caused damages for which property owners are now suing for claims amounting to $100,000. Under the tentative plans the city will acquire the block between Fayette and Lexington streets, opposite the City Hall, as a site for the City Hall Annex, and will then buy in all the property between Gay street and Jones Falls, north of Fayette street. The block between Harrison street and the Falls south of Fayette street is to be purchased to make a connection between the civic center and the market buildings. The section in Harrison street between Lexington and Fayette is the point where the overflow begins, and this section as well as others will be raised.

Easy Jobs in Boston

Boston, Mass.—That the city of Boston has paid out $50,000 for labor at the cow pasture pumping station of the Sewer Department in the past five years, for which the city has received no return in labor, is the statement made at the City Hall. It is further stated that city property amounting to more than $1,600 has been stolen from the pumping station and that few of the laborers ever made a practice of going there oftener than once a week.

Improvements for New San Francisco

San Francisco, Cal.—The Board of Supervisors has taken the first official steps toward a bond issue of $35,000,000 for fourteen different projects for improvements. These are: A fire protection system, fire houses, sewer system, repaving of streets, City Hall, schools, library, hospitals, Hall of Justice and jail, parks, playgrounds, land near ferry for widening outlet of Montgomery avenue, and a cremator.

Camps and Work for Unemployed

Seattle, Wash.—The King County Commissioners have decided to establish camps for the unemployed of the city along certain roads that need repair. The men will be given a comfortable place to sleep, three meals and 25 cents a day in cash. The Board of Park Commissioners have decided to put unemployed men at work in parks. A building will be rented for sleeping quarters and the men will be fed.

Suitable Location for Convenience Stations

Washington, D. C.—Property owners in the vicinity have objected to the proposed convenience station on the east side of Seventh street at the intersection of New York and Massachusetts avenues. Accordingly, if Congress approves, an underground station will be located at the southeast corner of reservation No. 8 (Mt. Vernon Square), at the corner of Seventh and K streets. General Mackenzie, Chief of Engineers, who has supervision of public reservations, has suggested that the elevation of the roof of the structure be such as not to materially change the contour of the grounds. The Congressional bill provides an appropriation of $25,000 for the station.

Safeguarding Amusement Houses

York, Pa.—At each of the five amusement places visited and inspected by Mayor McCull and City Electrician Warren E. Fastnacht, the proprietors were instructed to make certain alterations for the better safeguarding of their patrons from danger of injury in case of fire or panic. The regulations to be insisted on are: Doors of exits must open outward and must be marked with red lights; no person shall be allowed to stand in the aisles; doors must be unlatched at all times during the performance; moving picture machines must be inclosed in asbestos-lined booths.

LEGAL NEWS

A Summary and Notes of Recent Decisions—Rulings of Municipal Interest

PATENTED PAVEMENTS

Warren Bros. Co. vs. **City of New York.**—In framing Greater New York Charter, Laws 1901, providing that "except for repairs no patented pavement shall be laid and no patented articles shall be advertised for, contracted for or purchased, except under such circumstances that there can be a fair and reasonable opportunity for competition, the conditions to secure which shall be prescribed by the Board of Estimate and Apportionment," the Legislature contemplated that patented pavement might be laid in the city where there was a fair and reasonable opportunity by other bidders, and the Legislature did not intend that the specifications as to materials to be used in constructing the pavement should be alike in the case of each bidder. A resolution of the Board of Estimate and Apportionment of the City of New York authorized the Park Board to advertise for bids for certain paving, under a proposal for bids providing that the bidder might, at his option, offer to do the paving in any one of the three methods specified, to wit: (a) asphalt blocks; (b) sheet asphalt; (c) Warren patent bitulithic pavement. Specifications for each method were standard, requiring a pavement six inches thick. The resolution recited that the Board was of the opinion that the conditions set forth in the form of contract and specifications would secure a fair and reasonable opportunity for competition between the Warren pavement and other noiseless pavements. The contract was let to plaintiffs on a bid to do the paving with Warren patent bitulithic pavement. Held, that the contract was valid under Greater New York Charter, providing: "Except for repairs, no patented pavement shall be laid and no patented articles advertised for, contracted for or purchased, except under such circumstances that there can be a fair and reasonable opportunity for competition, conditions to secure which shall be prescribed by the Board of Estimate and Apportionment" —notwithstanding Revised Ordinances of the City of New York relating to the letting of contracts for work and supplies, providing that proposals for estimates shall state the quantity and quality of supplies, or the nature and extent, as near as possible, of the work required.—Court of Appeals of New York.

RESPONSIBILITY FOR UNIMPROVED WHARF

Birch vs. **City of New York.**—In an action against a municipality for one's death caused by his landing from a tugboat upon a pier at night, and falling through a hole in the pier, and drowning, evidence examined, and held to warrant a nonsuit, on the theory that the pier, though owned by the municipality, having been acquired for a public use to which it had not yet been devoted, was not a public place to which the public had been expressly or impliedly invited, and that defendant was under no greater obligation to those who assumed to use it than an individual owner or occupier would have been to a mere licensee.—Court of Appeals of New York.

CLAIM FOR DAMAGES—WAIVER OF VERIFICATION

Morlan vs. **Village of Marcellus.**—Failure of one having a claim against a village for injuries from a defective street to verify a notice to the village, as required by Comp. Laws, was waived, where when the notice was received none of the city officials objected to the lack of verification, and the common council appointed a committee to investigate the claim, which reported claimant entitled to $100 damages, which sum was tendered him by the Village President and refused.—Supreme Court of Michigan.

MUNICIPAL BONDS—WHEN VOID

Woodward vs. **City of Grangeville et al.**—A contract signed by the Mayor of a city is not a binding obligation of said city, when the law does not authorize such officer to make such contract, and said contract has not been authorized or ratified by said city. Municipal bonds voted by the electors of a city to raise revenue to make payment under a void contract become void when said contract is declared void. A city cannot evade the provisions of the statute, limiting the bonded indebtedness to 15 per cent. of the real estate valuation for the preceding year by voting bonds for partial payment on a contract, and making no legal provision for the balance due upon said contract.—Supreme Court of Idaho.

CIVIL SERVICE—REDUCTION OF COMPENSATION

Walters vs. **City of New York.**—Greater New York Charter authorized the removal of officers, clerks, etc., in the classified service by heads of departments after hearing on notice and opportunity to explain. Section 10, as amended by Laws 1902, provided that between January 1 and May 1 in the year 1902 the Board of Estimate and Apportionment should have power from time to time to alter and amend the budget for 1902, and to fix on the recommendation of the Mayor, Borough President, or head of any department, salaries in any of the offices, departments, boroughs, boards or commissions. Held, that the reduction of the salary of an employee in the classified service from $1,800 to $1,500 by the Board of Estimate and Apportionment in 1902 for public reasons, and not on grounds personal to such employee, did not constitute a removal from office, though it reduced his grade, and hence might be done without notice or an opportunity for hearing and explanation.—Court of Appeals of New York.

SPEED ORDINANCES AND STATUTES

People ex rel. Hainer vs. **Keeper of Prison of Seventh District Magistrates' Court of City of New York et al.**—Laws 1904 prohibits the operation of motor vehicles in closely built up districts at a greater speed than a mile in six minutes. Section 4, subd. 3, authorizes municipal authorities, subject to the provisions of the act, to limit the speed of motor vehicles in their streets, on condition that the ordinance fix the same speed limit for all other vehicles, which should not be less than one mile in six minutes, and a similar and not greater penalty for the violation thereof by motor vehicles than by other vehicles. The city of New York thereafter passed an ordinance prescribing a speed of eight miles per hour for all vehicles except in certain portions of the city, and providing for a violation thereof a penalty less severe than that prescribed by the motor vehicle law. Held, that the only power of a municipality under the statute to regulate the speed of motor vehicles by ordinance being to prescribe a "lower" rate than that permitted by the general law and to fix penalties for exceeding such lower rate, the driver of a motor vehicle at a speed in excess of the lower rate, but not in excess of a mile in six minutes, was subject to prosecution for violation of the ordinance only; but a person operating an automobile at a greater speed than a mile in six minutes, though within the limits of the municipality, was still liable to punishment under the general law.—Court of Appeals of New York.

CONDITION OF CROSSWALK

Stratton vs. **City of New York.**—A city is not an insurer, and is not expected to keep walks in such an absolutely perfect condition as to render an accident impossible, but is required only to use reasonable care in detecting and remedying defects which may be fairly expected to cause an accident, and hence is not liable for an injury caused by slipping on a concrete construction, 5 or 6 feet long, sloping from the top of the curb to the pavement at a point where a pedestrian would naturally cross; the sloping surface being about 18 inches wide, and the greatest perpendicular height about 6 inches, and which may be considered a convenience to travelers, rather than an obstruction, since it could not be reasonably apprehended that the construction would cause an accident.—Court of Appeals of New York.

DEFECTIVE STREETS—ICE

Udkin vs. **City of New Haven.**—The General Statutes of 1902, providing that a city shall build and keep in repair all necessary highways in its limits, and be liable in damages for injuries received on account of defective highways, does not authorize a city to enter upon private property to make repairs essential to maintaining a highway in a safe condition, and hence, where a leader pipe from a building discharges water into an areaway, whence it runs onto the sidewalk and freezes, the city is not liable for failure to repair the pipe so as to prevent the drainage upon the sidewalk.—Supreme Court of Errors of Connecticut.

WATER BONDS—DEBT LIMIT

Dean vs. **Citv of Walla Walla et al.**—City bonds issued for the purchase of water works and payable out of the general fund, are not a part of the indebtedness for general municipal purposes, but constitute a portion of the 5 per cent. additional indebtedness allowed by the Constitution for water, light, and sewer purposes, although the city at the time of their issue had not reached the 5 per cent. limit of general indebtedness.—Supreme Court of Washington.

AUTHORITY TO GRANT FRANCHISE

People ex rel. Flatbush Gas Co. vs. **Coler et al.**—Under Laws 1888, vesting the legislative power of the city of Brooklyn in a Common Council, such council is, in the absence of some special provision to the contrary, the authority whose consent was required before an electric company could use streets, etc., in supplying electricity, within Transportation Corporations Law, Laws 1890, authorizing such companies to erect conductors, etc., in streets, etc., to distribute electricity, "with the consent of the municipal authorities." Laws 1888, as amended by Laws 1895, gave the Department of Parks of Brooklyn exclusive power to govern a parkway and regulate the public use thereof, and subdivision 5 of such section 2 gave it power to determine the particular location of railroad tracks to be placed upon the parkway, provided that no track should be placed thereon without the Park Commissioner's consent. Held, that the law gave the Park Commissioner no authority to consent to an electric company using its conduits laid in such parkway to supply electricity to private consumers; such subdivision 5 opposing, rather than supporting, a contention that the Commissioner had such authority. A statute in derogation of the common rule of lodging the legislative power of a city in a Common Council should not be given any broader construction than is fairly warranted by its language and purposes.—Court of Appeals of New York.

PROPERTY LINE ESTABLISHED

Krause et al. vs. **City of El Paso.**—Where plaintiff, after compliance with an ordinance requiring persons intending to build to get permission from the Mayor, and to have their property lines designated by the City Engineer, erected a permanent brick building upon her property in conformity with such designation, and thereafter constructed a sidewalk in front of such property, according to orders from the city, which recognized her property lines as established by the Engineer, and has since been compelled by the city authorities to keep such sidewalk in good condition, the city, after plaintiff's occupancy for more than twenty years, is estopped to claim a part of such property as public highway, and to remove plaintiff's building therefrom.—Supreme Court of Texas, December 18, 1907.

PAVING ASSESSMENT—STREET DEFINED

Alvey et al. vs. **City of Asheville.**—A street in the defendant city, 125 feet wide, had in the center thereof an uninclosed area, known as "P. Square," which was decorated and maintained without expense to the city or by its citizens, and which was dedicated to free and unobstructed public use, except for wheel vehicles. The street outside P. Square was 60 feet in width, part lying between the curb on the north side of the street and P. Square and the southern curb of the street. Held, that P. Square was properly a part of the street, and that the two parts of the street on either side of the square constituted but one street, so that in the paving of them it was proper to charge one-third of the entire cost to the abutting property owners on the south side of the street and one-third to those on the north side.—Supreme Court of North Carolina.

LIABILITY FOR ACTS OF POLICE OFFICERS

Wilcox vs. **City of Rochester.**—Under the Laws of 1898, providing that the members of the police force of cities of the second class shall have the powers of constables, etc., a city of the second class exercises a governmental function in the appointment and maintenance of a police force, and it is not liable for the unlawful and negligent acts of police officers in the discharge of their duties. A city exercises a governmental function in maintaining a police station, used in part as a jail for prisoners, as well as in part for the accommodation of its police force, and it is not liable for the negligence of an employe in charge of the elevator therein.—Court of Appeals of New York.

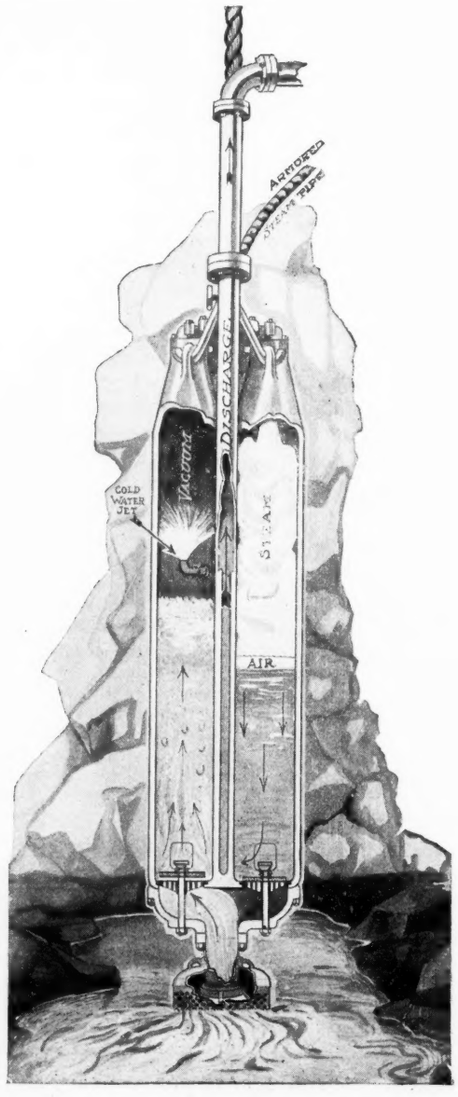
HORSES STANDING GUARDED

Putermann vs. **Simon et al.**—The St. Louis Municipal Code, punishing any person who shall leave a horse standing in a public place without being fastened or guarded to prevent its running away, was enacted to prevent injury by horses running away, not to prevent injury from horses biting persons; and an action for being bitten by a horse allowed to pass unguarded in a public street cannot be maintained on the theory of negligence in violating the ordinance.—St. Louis Court of Appeals, Missouri.

MUNICIPAL APPLIANCES

Pumping by Direct Steam Pressure

THE Emerson Pump consists of two vertical chambers cast together at the bottom. Each chamber has suction valves at the bottom, opening upward from the common chamber into which the suction pipe enters. The discharge valves open upward into the common chamber, from which the discharge or delivery pipe extends. The seats for these valves, of gun metal bronze, are very heavy and substantial. The valves are of medium hard rubber and very heavy. Condenser valves of gun metal bronze are screwed firmly into the walls of each chamber and are connected with the bottom of the opposite chamber by a pipe in which is a check valve opening upward. A small air check valve attached to each chamber at the top admits a small quantity of air while the chamber is filling, which places a stratum of air between the steam and water, preventing condensation. In operation water is forced out by the direct pressure of steam, then the steam is condensed to form a vacuum and cause the chamber to fill again. There are no plungers or mechanism of any kind, the work being done solely by the direct pressure of steam and by the vacuum produced by condensation. One chamber fills while the other is discharging. The pump is made by the Emerson Steam Pump Company, Alexandria, Va.



THE EMERSON STEAM PUMP

THE MUNICIPAL INDEX

In Which Are Listed and Classified by Subjects All Articles Treating of Municipal Topics Which Have Appeared During the Past Month in the Leading Periodicals

ROADS AND PAVEMENTS

Road Paving in Calcutta. Report of Committee concerning. 2 pp. Indian Public Health, December.

London Pavements. Severely condemned by The Lancet. 1-2 p. The Surveyor, January 10.

Paving and Modern Traffic. General discussion. By E. F. Spurrell. 1-2 p. Local Government Journal, January 11.

Road Motor Wheels and Roads. Their relation and effect upon each other. 1 p. Contract Journal, January 1.

Chains on Automobiles, New York City ordinance concerning. 3-4 p. Automobile, January 2.

Dustless Roads, Suggestions for the construction of. Illus. By J. P. Jenkins. 3-4 p. Contract Journal, January 15.

Durax Dustless Roads and Slag Macadam. 1-4 p. Municipal Journal and Engineer, January 29.

Oiling Park Roadwavs at Kansas City. Data from a report by W. H. Dunn, Supt. of Parks. 2-3 p. Engineering Contracting, January 22.

Road Preservation Experiments. Experiments in Massachusetts with tar, oil, cement, etc. Illus. 2 1-2 pp. Good Roads, January.

Street Grades. Paper before League of California Municipalities. By C. D. Lewis. 1 p. Pacific Municipalities, December.

Pavement Guarantees. Their use and abuse. Paper before Newark Board of Trade. By J. W. Howard. 2 pp. Municipal Engineering, January.

Patented Pavements in New York. Court decision permitting their use. 1-3 p. Municipal Journal and Engineer, January 1.

Brick Paved Country Roads. Illustrations of roads in Ohio and Pennsylvania. 1 1-2 pp. Clay Worker, January.

Joints of Brick Pavements, Materials for Filling. Paper before Am. Soc. Mun. Improvements. By W. A. Howell. 1 1-4 pp. Good Roads, January.

Paving Brick Manufacturers complain about freight rates. 1-2 p. Clay Worker, January.

Woods for Street Paving, Test of. From report of Andrew Rinker, City Engineer of Minneapolis. Illus. 3 pp. Municipal Engineering, January.

Paving Repair Plant, Municipal, at New Orleans. Detailed description of plant. 1 1-2 pp. Engineering Record, January 11.

Asphalt Pavement Repair Plant, Municipal, at New Orleans. 1 p. Engineering News, January 2.

Municipal Paving Plant at Ft. Worth, Tex. 1-4 p. Municipal Journal and Engineer, January 15.

Asphalt Repair Plant, Municipal, at Columbus, O. Illus. description. 1 p. Good Roads, January.

Sidewalks, Curbs and Gutters of Concrete. Some methods of construction. By H. W. Johnston. 1 1-4 pp. Canadian Municipal Journal, January.

Widths and Excavations, Roadway. Suggested arrangement of pavements and wire conduits. By Stephen Child. 2 pp. Municipal Journal and Engineer, January 1.

Pipe Conduits in City Streets. "Street Engineering." Paper before Detroit Engineering Society. By Rutger B. Green. 1 1-4 pp. Good Roads. January. 2 pp. Municipal Engineering, January.

Backfilling Trenches. Paper before Am. Soc. of Municipal Improvement. By Geo. C. Warren. 4 pp. Municipal Engineering, January.

SEWERAGE AND SANITATION

Sewerage Problem at Baltimore. By Ezra B. Whitman. 11 pp. The Cornell Civil Engineer, January.

Sewer Work at Butler, Ind. Use of a steam shovel for excavating a trench 8 feet wide by 22 feet deep. Illus. 1 1-4 pp. Steam Shovel News, January.

Sewer Tunnel, Method and Cost of Driving. From tractions Am. Soc. of C. E. By W. C. Parmley. Illus. 2 1-2 pp. Engineering-Contracting, January 1.

Los Angeles, Cal., Outfall Sewer. Method of construction. 3 pp. Illus. Engineering Record, January 25.

Sewer Pipe. Description of plant for manufacturing at, Mecca, Ind. Illus. 4 pp. Brick, January.

Conduit of Reinforced Concrete. Description of special design for carrying stream under streets of Ogden, Utah. Illus. 1 p. Engineering Record, January 18.

Concrete Water Pipe and Sewers. Traveling form for constructing. Abstract of paper before Am. Soc. C. E. By F. Teichman. Illus. 1 p. Engineering-Contracting, January 8.

Form of Concrete Sewer Used in Brooklyn, N. Y. Illus. 3-4 p. Engineering Record, January 25.

Flow of Water in Open Channels and Partly Filled Conduits. Formulas development discussed. Illus. with diagram. 5 1-2 pp. Gesundheits-Ingenieur, December 21.

Sewage Disposal at Worcester. Chemical precipitation, filtration and experimental sprinkling filter plants. Sewer maintenance. Illus. 3 1-2 pp. Municipal Journal and Engineer, January 22.

Sewage Disposal Problem. Special reference to Southend, England. By Ernest J. Elford. 1 1-2 pp. Local Government Journal, January 4, 11 and 18.

Purification of Sewage. A study and a criticism. By W. Owen Travis. 3 1-4 pp. Contract Journal, December 18.

Sewage Disposal Plants, Management of. 1-2 p. Engineering Record, January 18.

Small Communities, Sewage Disposal of. Paper before Conference of New York Sanitary Officers. By Theo. Horton. 2 1-2 pp. The Surveyor, January 17. 1 1-2 pp. Engineering Review, January.

Foreign Countries, Sewage Disposal in. Editorial dealing especially with French and American practice. 1 1-2 pp. The Surveyor, December 27.

Sludge Disposal, Notes on. Paper accompanying report for 1907 of New Jersey Sewerage Commission. By Geo. W. Fuller. 1 1-4 pp. Engineering Record, January 18.

Sewage Disposal. Discussion concerning elimination of suspended matters before Royal Sanitary Institute. Brief abstract. 1-2 p. Water, December 16.

Sewage Disposal Works at Lake Placid, N. Y. Illustrated description comprising septic tank and filter beds. 3-4 p. Engineering Record, December 28.

Sewage Disposal Plant in Central Iowa. Description of plant for Home of Inebriates at Knoxville. Illus. By A. Marsdon. 4 pp. The Cornell Civil Engineer, December.

Compulsory, Sewage Purification. Comment on Pennsylvania newspaper editorial. 3-4 p. Municipal Journal and Engineer, January 22.

Sterilizing Sewage or Water. Discussion as to which is more desirable. 1-2 p. Municipal Journal and Engineer, January 15.

Settling Tanks, Sewage. Results obtained at Frankfort-on-Main since 1887. 1 1-2 pp. The Surveyor, December 27.

Sewage Distributors for Sprinkling Filters. Abstract of paper by Messrs. Winslow, Phelps, Story and McRae, describing experiments made at the Sanitary Research Laboratory of the Mass. Inst. of Technology. Illus. 5 1-2 pp. Engineering Record, January 11 and 18. 1 3-4 pp. Contract Journal, December 25 and January 1. 4 1-4 pp. Engineering News, January 9.

Septic Tank Patent Valid. Decision of Circuit Court of Appeals concerning Cameron patent. 3-4 p. Municipal Journal and Engineer, January 29. 2 1-4 pp. Engineering News, January 23. Editorial discussion. 3-4 p. Engineering News, January 23. 4 pp. Engineering Record, January 25.

Lawrence Experiment Station of the Mass. State Board of Health. Station apparatus and nature of work done. Illus. 3 pp. Municipal Journal and Engineer, January 15.

Protection of Rivers and Streams from Sewage and Manufacturing Wastes. By H. Lemmoint Cannon. 1 p. Local Government Journal, January 11 and 18.

Sewage Pollution of Great Rivers. 1-3 p. Leslie's Weekly, January 23.

Flies and Disease. Brief discussion of report of Merchants' Ass'n of N. Y. on this subject. 1 p. The Independent, January 9.

House Air, Contamination of, by Earth, Air and Vapors. By S. H. Woodridge. 1 1-2 pp. Waterproofing, December.

Sanitation, Modern Discoveries and Necessity for Popular Education in. 3-4 p. Municipal Journal and Engineer, January 8.

Hygiene and Demography, Fourteenth International Congress of. Report concerning the proceedings. By Chas. F. Wike. 3 pp. Contract Journal, January 15. 4 pp. The Surveyor, January 10.

Public Health Act. English act concerning local health boards. 1-2 p. Local Government Journal, December 28.

Health Departments of Calcutta. Work done by. 2 pp. Indian Public Health. December.

New Jersey Sewerage Commission. Review of work accomplished by. 2-3 p. Engineering Record, December 28.

Milk Supply, The Problem of a Pure. General discussion. By R. Tanner Hewlett. 9 pp. Journal Royal Institute of Public Health, January.

Milk Supplies. Sanitary administration and rural. Editorial discussion. 1 p. The Surveyor, January 17.

Rat-Proof Buildings Advocated in San Francisco. 1 p. U. S. Public Health Reports, January 3.

Health, Sewerage and Water Commissions, Proposed consolidation of in New Jersey. Recommendation of retiring and incoming governors, with comments. 3-4 p. Engineering News, January 30.

WATER SUPPLY

Water Supply of Malvern, England. Paper before Association of Water Engineers. Illus. By N. O. Thorp. 4 3-4 pp. Contract Journal, December 25 and January 1. 6 1-2 pp. Water, January 15.

Paris and Suburbs, Water Supply of. General description of system. Illus. By Easton Devonshire. 3 1-2 pp. The Surveyor, December 27.

Frankfort-on-Main, Water Supply at. Pumping stations, reservoirs, etc. 2 pp. The Surveyor, December 27.

Great Britain, Water Supply in. Brief general review. 1 p. Municipal Journal, December 27.

London and Liverpool, Water Works. Some notes on. 2-3 p. Engineering News, January 9.

Camden, N. J., Water Supply of. Brief description. Fire and Water, January 22.

Colorado Springs Water Works. Illustrated description. 2 3-4 pp. Fire and Water, January 8.

Pueblo, Col., Mountain Water Supply of. Brief description. Illus. 3-4 p. Fire and Water, January 22.

Peabody, Mass., Water Works at. Recent improvements to, including pumping plant and distributing reservoir. Paper before New England Water Assn. By Frank A. Barbour. Illus. 19 pp. Journal of the Assn., December.

Ashokan Reservoir Dam Contract, Report of Commissioner of Accounts on the Award of. 1 p. Engineering News, January 2. Editorial discussion of same. 1-2 p. Engineering News, January 2.

Ashokan Dam Contract. Letter of Merchants' Association to Mayor McClellan. 1 1-2 pp. Municipal Journal and Engineer, January 8.

The Ashokan Dam Contract and Mayor McClellan. Editorial discussion. 2 pp. The Outlook, January 4.

Dam Construction in the United States. From the Journal of the New England Water Assn. Illus. 3 1-2 pp. Water, January 15.

Reservoir, Staines, Filter Beds, Etc. Brief description. Illus. 2 pp. Water, December 16.

Croton Falls Reservoir. Description of this part of New York's water system. Illus. 2 1-2 pp. Engineering Record, January 18.

Reinforced Concrete Reservoir at Waltham, Mass. Description of plans and construction. Paper before New England Water Assn. By Bertram Brewer. Illustrated with discussion. 23 pp. Journal of the Assn., December.

Tunnel Shaft of Detroit Water Works. Brief description. 2-3 p. Fire and Water, January 22.

Dual Water Service. Municipal and private plants competing at Sioux Falls. 1 p. Water and Gas Review, January.

Kansas City Water Department Statistics and Ordinances. 3-4 p. Fire and Water, January 8.

Underground Water. The right of English users under recent enactments. By A. B. E. Blackburn. 1 2-3 pp. Contract Journal, December 18. 2 1-2 pp. The Surveyor, January 3.

The Divining Rod. A defence. By Sydney F. Walker. 1-3 p. Engineering and Mining Journal, January 11.

Water Main Leakage in Washington. Amount discovered by pitometer survey. 1-4 p. Municipal Journal and Engineer, January 29.

Leak in a Water Main. A peculiar leak probably caused by electrolysis. Paper before New England Water Work Assn. By R. C. P. Coggeshall. Illus. 5 pp. Journal of the Association, December.

Tuberculation and Flow of Water in Pipes. Abstract of paper before Am. Water Works Assn. By N. S. Hill. 3-4 p. Engineering Record, January 25.

Cast Iron Pipe Specifications, Some Possibilities of. Paper before New England Water Assn. By Wm. R. Conard. Illus. With discussion. 10 pp. Journal of the Association, December.

Fire Hydrants, Experiments on Various Types. Paper before New England Water Works Assn. By Chas. L. Newcomb. Illus. 86 pp. Journal of the Assn., December.

Pumping Engines, High Duty vs. Low Duty. Abstract of paper before American Water Works Assn. By Irving H. Reynolds. 1-2 p. Water and Gas Review, January.

Artesian Well Pumping by Compressed Air. Theoretical discussion. By H. Tipper. 3-4 p. Engineering News, January 16.

Filtration of Water Supplies. General discussion. 3-4 p. Water, December 16.

Water Filtration of Plant at Lorain, O. Description of mechanical filter plant. Illus. 3 3-4 pp. Fire and Water, January 8.

Mechanical Filter Plant, Experiences in the Practical Operation of. Abstract of paper before Illinois Society of Engineers and Surveyors, by C. H. Cobb, Supt. Water Works, Kankakee, Ill. 1-2 p. Engineering News, January 30.

Copper Sulphate, Treating Water with. Discussion of experiments. By James W. Caird. 1 1-2 pp. Bulletin League of Am. Municipalities, January.

Water Softening and Filtration at McKeesport, Pa. Description of construction. Illus. 1 1-2 pp. Fire and Water, January 1.

Winnipeg Water Softening Plant. Brief description of the work done by it. 1-3 p. Engineering Record, January 4.

Appraisal and Depreciation of Water Works and Similar Properties. Paper before Engineers' Club of St. Louis. By Wm. H. Bryan. With discussion. 46 pp. Journal Assn. of Engineering Societies, December.

Water Charges and Water Waste at Somerville, Mass. Discusses use of meters. 1 1-2 pp. Municipal Engineering, January.

Water Shed Boards Advocated for England. By Herbert T. Scoble. 1 p. The Surveyor, December 20.

STREET LIGHTING AND ELECTRIC POWER

Street Illumination. Ideas concerning measurement of illumination. By Hayden T. Harrison. 2 pp. Illuminating Engineer, January.

Street Lighting, Practical Notes on. By W. H. Y. Webber. Illus. 2 1-2 pp. Local Government Journal, January 4, 11, 18.

Japan and Other Countries, Arc Lights in. Illus. 1 1-4 pp. American Gas Light Journal, December 30.

London, Street Lighting in. 1-2 p. Electrical Review, December 28.

New York City, Street Lighting in. Description of some ornamental lamp-posts used. By H. Thurston Owens. Illus. 3 pp. Progressive Age, January 1.

Detroit, Municipal Lighting in. Paper before Am. Soc. of Municipal Improvements. By Wm. L. Daly. 2 pp. Municipal Journal and Engineer, January 1.

Street Lighting in 1907. Review of progress in England and America types of lamps, etc. By Alton D. Adams. 3 pp. Municipal Journal and Engineer, January 1.

Street Lamps and Illumination, Lamp-post Designs and Street Lighting Statistics. 4 pp. Municipal Journal and Engineer, January 1.

Street Lamp-posts. Abstract from article in Municipal Journal and Engineer. Illus. 1 1-4 pp. Revista Municipal, February 15.

Prices, Street Lighting, Effect of Modern Apparatus and Methods upon. By Alton D. Adams. 2 1-2 pp. Editorial. 1-2 p. Municipal Journal and Engineer, January 29.

Electric Light Plants in Massachusetts. Synopsis of finances from report of State Board of Gas and Electric Light Commissioners. 1 3-4 pp. Municipal Journal and Engineer, January 1.

Electric Lighting, Municipal. Reports from cities whose plants have been cited as failures. 3 1-4 pp. Municipal Journal and Engineer, January 1.

Electric Lamps, New Kinds of. Paper before Am. Soc. of Mun. Improvements. By L. H. Weissleder. 1 1-4 pp. Municipal Journal and Engineer, January 1.

Testing Electric Lamps. Method briefly described. 1-2 p. Municipal Journal and Engineer, January 1.

Electric Plant, English Municipal. A steam turbine electric plant. Illus. By Frank C. Perkins. 1 3-4 pp. Municipal Journal and Engineer, January 1.

Motors, Internal Combustion, in Municipal Plants. Brief description of several instances. 1-2 p. Engineering Record, December 28.

Gas Producer Plant. Municipal water, light and power plant at Ottawa, Kan. Illus. 2-3 p. The Engineer, January 15.

Department of Electricity of Chicago, Its Functions Explained. 3-4 p. Electrical Review, January 11.

Gas Standards. Paper before Empire State Gas and Electric Assn. By Alfred E. Forstall. 1 2-3 pp. Water and Gas Review, January.

Gas and Gas Standard at Dallas, Tex. Report of J. C. Chisholm recommending thermal unit standard rather than candlepower. 1 1-4 pp. Municipal Journal and Engineer, January 22.

Gas Testing. Requirements for a perfect method. Illus. By W. Grafton. 4 1-2 pp. Illuminating Engineer, January.

Candlepower of Gas, Report on Method of Taking. By Committee of Am. Gas Institute. 4 1-2 pp. Progressive Age, January 1.

Gas Regulation, Gas and. The manufacture, cost, etc., of gas in various cities. By Geo. W. King. 4 1-2 pp. Bulletin League of Am. Municipalities, January.

High Pressure Gas Installations at and Near San Francisco. Condensed from paper before Pacific Gas Assn. By E. C. Jones. 1 1-2 pp. Engineering News, January 9.

Sliding Scale, London. Report of Committee of Am. Gas Institute recommending consideration of the plan. 1 p. Progressive Age, January 15.

FIRE AND POLICE

Fire Boat Protection. Paper before International Assn. of Fire Engineers. By Edw. F. Croker. 4 pp. Firemen's Herald, December 28.

Motor Fire Escape. Description of electrically propelled machine. Illus. 1-2 p. Municipal Journal, January 17.

Self-Propelled Fire Apparatus. Brief illustrated article. Fire and Water, January 29.

Rubber Tired Fire Apparatus. Its use in Washington. 1-4 p. Municipal Journal and Engineer, January 22.

Hose Scare. New York's investigation of poor hose. 1 p. Firemen's Herald, January 25. 3-4 p. Fire and Water, January 15.

Auxiliary Water System for Fire Protection in San Francisco. Brief description of plans. 1-3 p. Engineering News, January 16. 1 p. Municipal Journal and Engineer, January 15.

New York City Fire Protection Water System. Description of the new high pressure system. Illus. 2 1-2 pp. Engineering Record, January 4.

High Pressure Systems, Use of. Some possible uses suggested by S. H. Lockett. 4 1-2 pp. Insurance Engineering, January.

High Buildings, Fire Protection in. The need of auxiliary equipment. By J. A. Freitag. 6 pp. Engineering Magazine, February.

Parker Building, New York, Fire in. An analysis of. By P. J. McKeon. 3-4 p. Engineering News, January 16.

Instructive Fire. Notes on a destructive New York fire. 1-2 p. Municipal Journal and Engineer, January 15.

Public Halls, State Regulation of. Suggests this for safety against fires. 1-2 p. Municipal Journal and Engineer, January 22.

Fire Protection at Valparaiso. Notes by Consul Alfred A. Winslow. 1-2 p. Consular and Trade Reports, January 22.

Fire Record of 1907. Total loss much higher than any previous year. 4 1-2 pp. Insurance Engineering, January.

Alarm Stations, Central. New rules of National Board of Fire Underwriters. 4 pp. Insurance Engineering, January.

Building Code, A Proposed. Synopsis of code drafted for Greater New York. 4 1-2 pp. Insurance Engineering, January.

Fire Dangers, Common. Description of actual instances which convey their lessons. 6 1-2 pp. Insurance Engineering, January.

Hartford Fire Department, Brief Statement Concerning. Illus. 3-4 p. Fire and Water, January 1.

Firemen's Associations, Benefits to Be Derived from. Paper before Six County Firemen's Associations. By R. Alvan Beisel. 2 1-2 pp. Firemen's Herald, January 4.

Police Bicycles and Motor Cycles. Data concerning their use in the large cities of the country. 1 p. Municipal Journal and Engineer, January 15.

Boy Policemen. Their use in Council Bluffs. By T. R. Porter. Illus. 2 pp. World Today, January.

Crime in Cities. Comparison of arrests in thirty-two large cities during 1905. By Hugo S. Grosser. 1 1-2 pp. Bulletin League of Am. Municipalities, January.

GOVERNMENT AND FINANCE

Government by Commission, Ideas of Massachusetts Mayors Concerning. 1-2 p. Municipal Journal and Engineer, January 22.

Newport and the Newport Plan. Text of Newport's new charter and work of the city departments. 3 pp. Municipal Journal and Engineer, January 8.

Charters for London Suburbs. An increasing number asked for. 1 p. Municipal Journal, January 3.

Berlin Municipal Government. Exposition of its more important features. 3 pp. Bulletin League of Am. Municipalities, January.

By-laws, Town, in Nova Scotia. Paper before Union of Nova Scotia Municipalities. By Arthur Roberts. 3 1-2 pp. Canadian Municipal Journal, January.

Recall Laws of Various Municipalities. By Margaret Shaffner. From Bulletin Wis. Library Commission. 2 1-2 pp. Bulletin League Am. Municipalities, January.

Recall in California, Its Adoption in Two Cities. By J. J. Hanford. 3-4 p. Municipal Journal and Engineer, January 1.

Registration, Torrens System of. Paper before Union of Nova Scotia Municipalities. By F. H. Bell. 2 1-2 pp. Canadian Municipal Journal, January.

Municipal Ownership in Milan. Funerals and street advertisements added to the ordinary municipal functions. 1-2 p. Consular and Trade Reports, January 6.

Municipal Ownership at Fort William and Port Arthur. Most complete trial of this made on this continent. Illustrated. 1 1-2 pp. American Review of Reviews, January.

Municipal Ownership. Answers to recent papers of H. J. Gondon and E. A. Moffett. By E. W. Bemis. 3-4 p. Bulletin League of Am. Municipalities, January.

Municipal Ownership or Regulation. Discussion by Walter L. Fisher before Michigan Constitutional Convention. 1 1-2 pp. Bulletin League of Am. Municipalities, January.

Public Regulation and Control of Gas Companies Recommended by Committee of American Gas Institute. 1-2 p. Progressive Age, January 15.

Municipal Franchises. Report of Committee of League of Iowa Municipalities. 3 pp. Midland Municipalities, December.

Municipal Franchises in Iowa, The Law of. Text and comments of ordinances and decisions. By B. F. Swisher. 8 pp. Midland Municipalities, December.

Taxes in Germany. Rates, etc., in different cities. 2 pp. Consular and Trade Reports, January 10.

Tax Exemptions and Bonuses Offered to Manufacturing Concerns. Equality of taxation violated. Paper before Union of Nova Scotia Municipalities. By A. Whitman. 3 1-2 pp. Canadian Municipal Journal, January.

Assessment, Municipal. Paper before Union of Nova Scotia Municipalities. By J. A. Johnson. 2 1-2 pp. Canadian Municipal Journal, December.

Bond Sales, Municipal, During November. 3-4 p. Municipal Journal and Engineer, January 1.

Accounting in Waterbury, Conn., City. Novel methods of city comptroller. 1-3 p. Municipal Journal and Engineer, January 22.

Association of Public Accountants. Twentieth Annual Convention Proceedings. 52 pp. Journal of Accountancy, December.

Safeguarding Public Money. Employment of public accountants. 1-2 p. Municipal Journal and Engineer, January 8.

Depreciation Allowances for Various Public Industries. Compiled from various sources. By Wm. H. Bryan. 3-4 p. Engineering News, January 23.

Business Corporation. The City as a. 1-2 p. The Outlook, February 1.

REFUSE COLLECTION AND DISPOSAL

Street Cleaning Costs in Camberwell, England, and 28 Other Boroughs. 1-3 p. Local Government Journal, January 4.

Street Cleaning in St. Louis, Data on. 1-4 p. Engineering-Contracting, January 15.

Garbage Disposal in Milwaukee. Abstract of report by Rudolph Hering. 1 1-3 pp. Engineering Record, January 25.

Garbage Incineration at Vancouver, B. C. 1-2 p. Consular and Trade Reports, January 13.

Disposal of Household Waste. Paper before Union of Nova Scotia Municipalities. By F. W. W. Dowane. 2 pp. Canadian Municipal Journal, January.

Garbage and Refuse Disposal at Milwaukee. Report by Rudolph Hering. 2 pp. Engineering News, January 16.

Garbage and Refuse Disposal. Reports for Milwaukee and Columbus. 2-3 p. Engineering Record, January 4.

Refuse Disposal, Municipal. Discussion of paper by J. T. Fetherston before Am. Society of Civil Engineers. 28 pp. Proceedings Am. Soc. C. E., January. 1 3-4 pp. Engineering Record, December 28.

PARKS AND CITY BEAUTY

Improvements, Chicago Lake Front, Harbor Traffic Terminals, etc. Plans being prepared for these. 1 p. Engineering News, December 23.

Brooklyn Plaza and Projected Central Library. Plans for an extensive plaza at Flatbush avenue and Eastern Parkway. By Raymond F. Almirall. Illus. 14 pp. Architectural Record, February.

Art Commission of New York. Abstract of recent report. 2-3 p. Municipal Journal, January 17.

Los Angeles, Improvements at. Description of plan for boulevard, civic center, etc. Illus. 2 1-4 pp. Municipal Journal and Engineer, January 29.

Tree Surgery. Treating diseased trees. Illus. By G. H. Allen. 2 pp. Suburban Life, February.

Planting Trees and Shrubs, Cost of Digging Holes and. Some figures from actual work. 1 1-3 pp. Engineering-Contracting, January 1.

Landscape Architecture, Some Notes Concerning. Illus. 2 3-4 pp. Contract Journal, January 1.

Playgrounds in Boston. Areas covered and work done on eighteen playgrounds. 1-2 p. Municipal Journal and Engineer, January 8.

Advertising in Public Places, Regulation of. Paper before Union of Nova Scotia Municipalities. By L. F. Monaghan. 2 pp. Canadian Municipal Journal, December.

Inartistic Peripatetic Signs. New York 'bus signs to be removed. 1-4 p. Municipal Journal and Engineer, January 29.

TRAFFIC AND TRANSPORTATION

Prepayment Cars in Buffalo, Some Details of. 1-4 p. Municipal Journal and Engineer, January 22.

Pay-as-You-Enter Service in Buffalo. Results obtained. Illus. 1 1-4 pp. Street Railway Journal, January 11. 1 1-2 pp. Electric Railway Review, January 11.

Pay-as-You-Enter Cars in Pittsburg. Explanation of difficulties encountered. 1-2 p. Electric Railway Review, January 11. Editorial. 1-4 p. Municipal Journal and Engineer, January 8.

Pay-as-You-Leave Car. A new idea advocated. Illus. 3-4 p. Street Railway Journal, January 18.

Motor Omnibus Tests. Considered unsatisfactory in Nottingham. 3-4 p. Consular and Trade Reports, January 30.

Motor Omnibuses, Petrol-Electric. Description of those used in England. Illus. 1 1-4 pp. Contract Journal, January 1.

Shanghai Tramay Notes. Illus. 1 p. Street Railway Journal, January 4.

Track Reconstruction in San Francisco. Kind of construction used since the fire. Illus. 5 pp. Street Railway Journal, January 18.

Overcrowding of Surface Cars. Suggestion of the City Club of New York that designated number of seats per hour be required of transit companies. 1 1-2 pp. Electric Railway Review, January 4.

Car Intervals in Interurban Service. Editorial discussion. 3-4 p. Street Railway Journal, January 11.

MISCELLANEOUS

Description of Cities. Tacoma, a garden city. Description by an English architect, Amott Woodroofe. Illus. Overland Monthly, December.

San Francisco. Popular notes concerning its rebuilding. By Jesse L. Williams. Illus. 2 pp. Collier's, January 11.

Minneapolis as a Commercial City. "Shifting the Commercial Center of Gravity." By James Linn Nash. Illus. 9 pp. The World Today, February.

City of Chicago. Pencil drawings illustrating streets and parks. By Vernon H. Bailey. 8 pp. Everybody's, February.

Boley, I. T. A Negro town in the West. By Booker T. Washington. 3 pp. The Outlook, January 4.

Greater New York, Its Growth in Population and Real Estate Values. Illus. By Chester F. Parish. 8 pp. The Independent, December 26.

Jacksonville's Progress from Disaster. Work done since the 1901 fire. By Geo. Byrne. 3-4 p. Manufacturers' Record, January 9.

Rio Janeiro, The Transformation of. Public Works of the city. By L. S. Rowe. 3 pp. The Independent, January 30.

London, The Streets of. Description of sights thereon. Illus. By Arthur Hewitt. 14 pp. The Outlook, December 28.

Municipal Improvements in Mexico. Brief summary. By W. D. Hornaday. 1 1-4 pp. Municipal Engineering, January.

Public Improvements in the Philippines. Review of work done. Illus. 1 1-2 pp. Manila Daily Bulletin, November 3.

Niagara Falls Park Commission, The Queen Victoria. Paper before American Civic Assn. By John W. Langmuir. 3 pp. Canadian Municipal Journal, January.

Civic Improvements. Notes from various cities. By Chas. Mulford Robinson. 2 1-2 pp. Charities, January 18.

Political and Sociological. San Francisco, Municipal Situation in. By Henry Suzzallo. Illus. 4 pp. Independent, January 2.

Municipal Research in San Francisco, Boston and New York. 1-4 p. Cincinnati's Citizens' Bulletin, January 18.

Boston Mayoralty Election. W. H. Holden's work in connection with. 2 pp. The Independent, January 9.

Municipal Events in 1906 and 1907. Efforts of American cities toward better municipal government. By Clinton Rogers Woodruff. 34 pp. Am. Journal of Sociology, January.

Brazil, Municipal Progress in. By L. S. Rowe. 4 1-2 pp. American Journal of Sociology, January.

Municipal House-keeping. A woman on municipal reform. By Eleanor E. Gordon. 3 1-2 pp. Midland Municipalities, December.

Housing in Manchester. Illus. description of recent style of municipal houses. 1 1-4 pp. The Surveyor, January 3.

Housing Progress. Review of year's work of housing reform movement. 1 p. Municipal Journal, January 3.

Housing Problem in Detroit. By Rabbi Leo M. Franklin. Illus. 6 pp. Charities, January 4.

Municipal Employment. Discussion of character of and method of selecting employees. 1 1-2 pp. Contract Journal, January 8.

Work for the Unemployed. Being furnished by several cities. 1-4 p. Municipal Journal and Engineer, January 14.

Civic Pension Fund in Halifax, N. S. Paper before Union of Nova Scotia Municipalities. By Prof. W. Murray. 1 p. Canadian Municipal Journal, December.

Schools, Public Works High. Suggestion of plan for permitting High School students to support themselves as public works employees. By Wm. Thum. 23 pp. The Arena, December.

Commission of Public Utility, New York. Brief statement concerning. 1-2 p. Revista-Municipal, January 15.p

New York Public Service Commission. Report of the work done during the first six months. 1 p. Street Railway Journal, January 25.

Land Grabbing in Chicago. Alleged land stealing by Marshall Field & Company. 1 1-4 p. The Outlook, January 25.

Smoke prevention in Newark, N. J. City Ordinance and Experience in its application. 1 1-4 pp. Engineering Record, January 18.

Libraries as an aid to good government. Paper before League of California Municipalities. By Ernest Bruncken. 4 1-2 pp. Pacific Municipalities, December.

Public Baths in Baltimore. Brief note. 1-4 pp. Engineering Review, January.

Baths and Wash Houses, Public, at Hammersmith, England. Illustrated description. 2 1-4 pp. The Surveyor, December 20.

Public Warm Water Baths. Discussion, illustrated with plans. By W. Grunow. 3 1-2 pp. Gesundheits-Ingenieur, December 21.

Public Comfort Stations. General article by Graham Taylor. 1-2 p. Engineering Review, January.

Abattoirs in London. Brief illustrated description of new ones costing $160,000. 2-3 p. The Surveyor, December 20.

High Buildings. Fifty-story Building, the Coming of the. Popular description of tall New York buildings. By Jos. Thompson. Ill. 6 1-2 pp. The Munsey, February.

Property Lines in the Suburbs of Frankfort-on-Main. Rules for rearrangement where street openings cause inconveniently shaped sites. 1 p. Engineering Record, Jan. 4.

Furniture and Equipment in Municipal and Local Offices. 2-3 p. Local Government Journal, January 18.

Pump Manufacturer's Foundry. Description of Goulds Mfg. Co.'s Foundry. Illustrated. 7 pp. Iron Age, January 2.

NEWS OF THE SOCIETIES

Connecticut Society of Civil Engineers.—The Society will hold its twenty-fourth annual meeting in New Haven, February 11 and 12. On Tuesday, at 11 A.M., there will be the regular business meeting for the election of officers in North Sheffield Hall, and the following names will be voted on for membership: Jonathan H. Child, Wallingford; Matthias W. Denman, Springfield; M. F. McKenna, Bridgeport; Charles A. Sibley, St. Louis; William W. Starr, Bridgeport; Charles P. Waterman, Bristol, and E. C. Webster, New Haven. At 1 P.M. there will be luncheon tendered by the local members at Heublein's, and this will be followed at 2 o'clock by an inspection of the Hammond Metallurgical laboratory on Mansfield street. At 3:30 there will be an address by William B. Fuller, of New York City water supply on the "Purification of Water by Sand Filtration." Dinner will be served at Heublein's café at 6:30. On Wednesday, at 9:30 A.M., there will be a meeting in the North Sheffield Hall for the reading and discussion of papers, as follows: "A Talk on Reinforced Concrete Bridges," by M. W. Denman, Springfield; "The Harbors and Rivers of New Haven," by J. Frederick Jackson, New Haven; "Stream Flow Data, with Reference to Water Power in Connecticut and Vicinity," by Charles E. Chandler, Norwich; "Snapshots in American Cities," by Frederick L. Ford, Hartford; "Mill Rock Water Tower at New Haven," by Edward E. Minor, New Haven; "Water Waste Investigations," by William E. Johnson and Ermon M. Peck, Hartford; "The State Boundary Survey," by Henry R. Buck, Hartford; "Hydraulic Fill Dams," by Walter S. Morton, Hartford. The officers of the society for 1907 are: President, Daniel S. Brinsmade, of Derby; first vice-president, E. W. Bush, of Hartford; second vice-president, Frederick J. Easterbrook; secretary and treasurer, J. Fred Jackson, New Haven, and assistant secretary, Edward E. Minor, of New Haven.

National Association of Cement Users.—The fourth annual convention of the association was held in Buffalo, N. Y., January 20-25, about 300 members being in attendance. President Richard L. Humphrey opened the convention with his annual address, in which he urged high standards of workmanship. The matter of mixing and proportioning of concrete was dealt with by L. C. Wason, of Boston, Mass. He said that in a series of comparative tests of hand and machine mixed concrete, the latter showed a superiority of 25 per cent. James L. Davis, of the Board of Water Supply, New York City, spoke of waterproofing of concrete and impermeable concrete mixtures. Albert Moyer, of New York, read an address on "Exposed Selected Aggregates in Monolithic Concrete Construction." The Committee on Standard Specifications omitted the usual clause requiring a heavy foundation of ashes or rock in sidewalk specifications. The following officers were re-elected: Richard L. Humphrey, President; H. C. Turner, Treasurer; George C. Wright, Rochester, N. Y., Secretary.

Society of Civil Engineers of St. Paul, Minn.—The following officers were recently elected: President, C. L. Annan; Vice-President, J. D. Du Shane; Secretary, G. E. House; Treasurer, L. P. Wolff.

National Society for the Promotion of Industrial Education.—The first convention of the Society was held in Chicago, January 23-25. The object of the association is to encourage trade schools for training boys and girls for future work in manufacturing and industrial occupations. In this country many boys leave school at the age of fourteen and drift into haphazard occupations until they reach the age of sixteen, when they can be employed by manufacturers. In Berlin and other German cities, as pointed out by Victor C. Alderson, of Denver, 55 per cent. of the boys between the ages of fourteen and sixteen years are in the industrial schools, being trained as future craftsmen.

Western Society of Engineers.—At the meeting held in the rooms of the Society in Chicago, Ill., January 22, the subject for discussion was a paper on "The Wrought Compressive Member for Bridge Trusses," read by Horace E. Horton at a previous meeting. After the discussion, on motion of Mr. Horton, a committee was appointed to compile information in regard to tests of full sized compression members. The information will be published in the Journal of the Society.

American Society for Testing Materials.—The next annual meeting will be held at the Hotel Traymore, Atlantic City, N. J., June 23-27. With five days devoted to the meeting, instead of three, as heretofore, there will be no conflict of the sessions of different sections, and the arrangement of the programme will probably be such that a member interested in but one line of the convention's work can attend all the sessions devoted to his group of subjects in two or three consecutive days.

Engineers' Club of Philadelphia.—At a recent election the following officers were chosen: President, Prof. H. W. Spangler; Vice-Presidents, Washington Devereaux, William Easby, Jr.; Secretary, Francis Head; Treasurer, G. T. Gwilliam.

New England Water Works Association.—At the February meeting, to be held at Hotel Brunswick, Copley Square, Boston, February 12, the following papers will be presented: "Filter Operations, Investigations for Additional Supply and Construction of New Filter, at Lawrence, Mass.," by Morris Knowles, Chief Engineer Bureau of Filtration, Pittsburg, Pa.; M. F. Collins, Superintendent Water Works, Lawrence, Mass.; Arthur D. Marble, City Engineer, Lawrence, Mass. "Investigation of Collapse of Filter Roof, During Construction at Lawrence, Mass.," by Sanford E. Thompson, Consulting Engineer.

Illinois Firemen's Convention.—The twentieth annual convention of the firemen of Illinois opened January 14 at Morris, Ill., with 150 delegates. Chief Peter Kipley, of Riverside, President of the State Association, presided. Among the prominent attendants were B. F. Steinmetz, of the Twenty-eighth District; Chief James Horan, of the Fire Department of Chicago; Captain McDonald, of Chicago, and C. C. Chaus, of Bushnell, President of the National Firemen's Association. A banquet was given at which Chief Horan spoke on "The Chicago Fire Department." Clinton was selected for the next convention. All the old officers were re-elected: President, Peter Kipley, of Riverdale; Secretary, Walter E. Price, of Champaign; Treasurer, M. T. Quirk, of Arcola.

Harvard Engineering Society of New York.—All Harvard graduates who are eligible to membership in the proposed Association of Harvard Engineers, whether they are members of the New York Society or not, are invited to attend the annual dinner to be held at the Harvard Club, New York City, February 15. The object of this association of Harvard men interested in engineering throughout the country is to advance the cause of engineering, including kindred professions; to increase the influence and usefulness of Harvard in engineering and to promote mutual acquaintance and good fellowship among the members of the association. It is proposed that membership shall be open to any former member, past or present officer, or any honorary degree holder of Harvard University whether educated in engineering at Harvard or elsewhere, who is identified professionally or associated as owner or director in engineering in any of its branches, and who wishes to co-operate. The Committee on Organization, which was appointed in Cambridge last June, has practically completed its plans for launching the association at a meeting and dinner to be held in Cambridge in connection with the undergraduate Harvard Engineering Society on March 21 or 28. The desirability of such an organization has been made manifest, especially in view of the new conditions which obtain with regard to the relation of engineering to the University.

Electrical Contractors' Association of New York.—The annual convention was held at Rochester, N. Y., January 21. All the officers were re-elected; they are: President, James Hilton, Syracuse; Vice-President, Edmund D. McCarthy, Buffalo; Secretary, George W. Russell, Jr., New York; Treasurer, James F. Burns, Schenectady. The Board of Directors is composed of J. C. Sterns, Buffalo association; Rudolph Schmidt, Rochester association; James Hilton, Syracuse association; F. W. Newman, Eastern association, and Emil Christensen, Independent Electrical Contractors' Association of New York. The sessions of the convention were private. There were few addresses, the greater part of the time being devoted to a discussion of trade matters. Certain differences exist between the contractors and jobbers, and these matters were discussed to some extent. There was also a discussion of the need of legislation to provide for thorough inspection of wiring before current is turned. One of the reasons for desiring legislation is to keep out irresponsible firms. It is said to be the desire of the State Association to have the inspecting done by the State.

Calendar of Meetings

February 3-4.
American Ceramic Society.—Twenty-second national convention, Hartman Hotel, Columbus, O.—Theo. A. Randall, Secretary, Indianapolis, Ind.

February 10-12.
American Society of Plumbing Inspectors and Sanitary Engineers.—Annual meeting Chicago, Ill.—Garrett M. Cotter, 44 East Twenty-third street, New York City.

February 11-12.
Connecticut Society of Civil Engineers.—Annual meeting, New Haven, Conn.—J. T. Jackson, Secretary, New Haven.

February 11-13.
Ohio Engineering Society.—Annual meeting, Great Southern Hotel, Columbus, O.—E. G. Bradbury, Secretary, 85 North High street, Columbus, O.

February 12.
New England Water Works Association.—Regular monthly meeting, Hotel Brunswick, Boston, Mass.—Millard Kent, Secretary, 715 Tremont Temple, Boston, Mass.

February 19.
American Society of Civil Engineers—Regular meeting at the House of the Society, 220 West Fifty-seventh street, New York City.—Charles Warren Hunt, Secretary.

May 11-16.
American Water Works Association—Twenty-eighth annual convention, Washington, D. C.—J. M. Diven, Secretary, 14 George street, Charleston, S. C.

June 23-26.
Society of Civil Engineers.—Annual convention, Denver Col.—Charles Warren Hunt, Secretary, 220 West Fifty-seventh street, New York City.

June 23-27.
American Society for Testing Materials.—Annual meeting, Hotel Traymore, Atlantic City, N. J.—Theodore Marburg, Secretary, University of Pennsylvania, Philadelphia, Pa.

PERSONALS

BROOKS, CAPT. JOHN M., Knoxville, Tenn., has been elected Mayor of the city; John Flenniken, Chairman of the Board of Public Works, and William Brakebill and R. B. Ragsdale as members of the Board.

BURCKHALTER, J. C., Chief of the Fire Department of Butler, Pa., many years, resigned recently, and the Borough Council laid the matter over for further consideration; no reason given.

CONNORS, JOHN, South Amboy, N. J., has been named as Street Commissioner by Mayor Birmingham, vice James Collins; M. G. Byrnes, Borough Counsel; Francis P. Coan, Borough Clerk; I. B. Martin, Water Commissioner; Captain M. S. Kirby, Harbor Master; James McDonald, Chief of Police; Thomas Monahan, Assistant Marshal, and Thomas Gleason and Patrick Ryan, Second and Third Assistants respectively.

COOPER, SAMUEL L., City Engineer of Yonkers, N. Y., has been reappointed, and R. E. Ferguson has been appointed Commissioner of Public Works.

COPEN, F. C., Mayor of Waldron, Ark., was summarily ousted from office for alleged malfeasance in office recently by unanimous vote of Council, and Councilman Lee Fuller was elected to fill the unexpired term.

DONNELLY, Dr. H. H., Assistant Bacteriologist in the Health Department of the District of Columbia, has resigned.

DUNBAR, L. L., Superintendent of Water Works of Bay City, Mich., recently completed his thirty-sixth year at the head of the department; he started the construction of the water works system and is still building it, having laid over 80 miles, besides much of the original piping which has been re-laid with iron piping; before being put in charge of the Water Works proposition, Mr. Dunbar was for two years Assistant City Engineer, and prior to that time County Surveyor for four years, making forty-two years of continuous public service, notwithstanding the turmoil of politics.

ELLMS, J. W., has been appointed Superintendent of the new water purification works recently completed at Cincinnati, O.; he has been chemist there for several years and his papers on some of his research work and subjects connected with the purification of Ohio River water have attracted much attention.

EVERETT, ALBERT A., has been appointed Second Assistant City Engineer of Charleston, S. C.

FELL, W. W., elected Mayor of Orangeville, O., by overwhelming vote, was kept out of the office by G. W. Snyder, who was appointed by the Village Council last August, brought suit in the Circuit Court to have Snyder ousted.

FISHER, W. C., Mayor of Middletown, Conn., was defeated for re-election by Thomas M. Russell, whom he defeated two years ago; Mayor Fisher is a Professor at Wesleyan College.

FOLSOM, SIMEON P., the first City Engineer of St. Paul, Minn., recently died in that city, aged 88 years; he was graduated from Maine Wesleyan Seminary in 1837, and Jan. 1, 1840, went west to Prairie du Chien, Wis.; he went to St. Paul in 1847, and when the town was incorporated, in 1854, he was elected City Engineer.

GARDNER, W. H., ex-Mayor of Union City, Tenn., has been elected Mayor, receiving more votes than two opponents.

GAW, ROBERT, has been appointed Engineer of North Bergen Township, N. J.

GILES, JOHN A., has been appointed City Engineer of Binghamton, N. Y.; he was formerly connected with the Engineering Department of the Chicago & Northwestern Railroad, engaged in track elevation work in Chicago, Ill.

GRANFIELD, WILLIAM B., James P. Dunn and William A. Bellamy, Sewer Commissioners of Taunton, Mass., have been invited to resign by Mayor Crossman, who recently succeeded Mayor Tracy.

GRANT, J. W., Bingham, Utah, has been appointed by Mayor T. H. Quillan, just installed, as Chief of Police; John T. Bogan, Water Master, and Francis Quinn, Town Clerk; Council has increased the salaries of Mayor and Councilmen to $25 per month, from $8 and $5 respectively.

GRIDLEY, FRANK B., has been appointed Deputy City Engineer of Troy, N. Y.

HOLDAWAY, J. M., Provo, Utah, has been appointed Superintendent of Water Works and Sewers by Mayor C. F. Decker, just installed, and confirmed by Council; also E. A. Jacobs, City Engineer; William Carter, Road Supervisor; Thomas John Farrer, Water Master; Arthur Craven, Building and Electric Wiring Inspector; Joseph W. Loveless, Chief of Fire Department; R. C. Kirkwood, Sealer of Weights and Measures and Provision Inspector; J. E. Hosmer, City Physician.

LANG, JOHN BARR, former Mayor of Ithaca, N. Y., and the promoter of the first sewer system of the city, died recently, aged 74 years.

LAWTON, WILLIAM H., City Engineer of Newport, R. I., has been re-elected by the Representative Council, as have also Jeremiah K. Sullivan, Street Commissioner; F. N. Fullerton, City Clerk; Cornelius W. R. Callahan, Deputy City Clerk; John M. Taylor, City Treasurer; David M. Coggeshall, Assistant City Treasurer; Clark Burdick, City Solicitor; Dr. John H. Sanborn, City Physician; Ira W. Wilbur, Inspector of Plumbing; Andrew J. Kirwin, Chief Engineer of Fire Department; Joseph S. Lawton, Assistant Engineer; Thomas W. Freeborne has been elected Sealer of Weights and Measures vice John J. Connell; E. M. Greenlaw as member of the Board of Health for five years, vice Robert Frame, and P. H. Walsh Harbor Master, vice Henry Gladding.

MCDERMOTT, ALLAN L., President of the Washington Railway and Electric Company, Washington, D. C., has been re-elected, as has Gen. George H. Harries as Second Vice-President; Clarence F. Norment was elected First Vice-President, a newly created office, and these officers with William Loeb, Jr., Secretary to President Roosevelt, Woodbury Blair, George Truesdell and Ward Thoron, constitute the Board of Directors.

PRIOLEAU, PHILIP, City Engineer of Jacksonville, Fla., has been re-elected.

SIMMONS, J. EDWARD, Chairman of the Board of Water Supply of New York City, presented his resignation to the Mayor after the exoneration of the Board of all blame in the matter of the awarding of the contract for the Ashokan Dam, and the same has been accepted.

SMITH, A. P., City Engineer of North Tonawanda, N. Y., has been reappointed.

STEBBINS, CHARLES D., former Mayor of Grand Rapids, Mich., as well as former City Treasurer and County Treasurer, passed away recently, aged 70 years.

STECK, J. A., Walhalla, Wash., has been elected Mayor of the city over George L. Wilson, while W. L. Verner, Dr. J. W. Bell, Thomas Littleton, J. Bennett Hill, W. D. Moss and C. P. Walker have been elected Aldermen.

SYMONS, W. F., Mayor of Brunswick, Ga., has resigned, owing to the recent action of Council in taking from the Mayor all power of making appointments.

THOMAS, LEWIS B., former Mayor of Bloomington, Ill., for five terms, died recently, aged 69 years.

TRACY, A. B., Chief Engineer of the Consolidated Water Company of Utica, N. Y., has been re-elected.

TYGERSON, A., Ephraim, Utah, has been appointed by Mayor David M. Beal as Superintendent of Electric Lights and confirmed by Council; also Christian Frantzen as Street Supervisor; Peter C. Jensen, Water Master; Peter Breinholt, Building Inspector; Ephraim Hanson, City Attorney, and Dr. V. G. Logan, Adolph Hansen and Louis H. Anderson as members of the Board of Health.

VAN AUKEN, C. H., City Engineer of Cohoes, N. Y., for fourteen years, was killed while crossing a railroad track on his way home recently.

WARD, CHARLES R., Brooklyn, N. Y., has been promoted from the position of Assistant Engineer to that of Chief Engineer of the Topographical Bureau, Borough of Brooklyn, New York City.

WARD, N. W., Mayor of Fairmount, Minn., who disappeared in September last, has written his wife from Seattle, Wash., and gives no reason for his departure; the office has since been filled.

WASHINGTON, L. A., City Engineer of Paducah, Ky., has been reappointed by Mayor James P. Smith; James Campbell, Jr., City Solicitor; J. J. Dorian, City Treasurer; Maurice McIntyre, becomes City Clerk, succeeding Henry Bailey; Arthur Y. Martin, City Attorney; J. Wess Orr, City Assessor, and A. Franke, Sewer Inspector, vice A. Bundersman.

WESTON, GEORGE, has been appointed as the city's representative on the Traction Board of Supervising Engineers, of Chicago, Ill.; he has been Assistant to the Chief Engineer, Bion J. Arnold, and now takes the place of his brother, C. V. Weston, resigned.

WESTON, CLARK, Olympia, Wash., has been selected for Street Commissioner after Council refused to confirm F. O. Bethune, named first by Mayor W. A. Hagemeyer, and Edmund Rogers as Chief of Police, after failure of Alexander Wright of confirmation; other officers named and confirmed were: City Surveyor, Millard Lemon; Chief of Fire Department, B. H. Barnes; Health Officer, Robert Kincaid; member of Park Board, Thomas McLarty.

WOODWARD, THOMAS P., City Engineer of San Francisco, Cal., has been asked for his resignation by Mayor Taylor, the reasons given being that he is not a civil engineer and therefore not fitted for the position; he had been in the printing business for several years when former Mayor Schmitz put him on the School Board, next was appointed on the Public Works Commission and then made City Engineer.

YOUNGS, LUTHER B., Superintendent of the Water and Light Department of Seattle, Wash., has been reappointed by Mayor William Hickman Moore, and the salary of the office increased from $2,600 to $4,200 per annum; Mr. Youngs will have finished his sixteenth year at the head of the Department at the expiration of his term December 31, 1910.

Mayors in Ontario Province, Canada, were elected recently as follows:

Aylmer, W. R. Hare; Aldston, W. A. Bell; Almonte, A. A. Metcalf; Barrie, J. H. Bennett; Berlin, Allan Huber; Brantford, J. W. Bowlby; Bothwell, T. Haller; Bracebridge, S. H. Armstrong; Brampton, James Golding; Belleville, — McFee; Cobalt, — Lang; Collingwood, Geo. Watson; Cobourg, C. A. Munson; Carleton Place, G. H. Findlay; Campbellford, W. J. Doxsee; Chatham, Thos. Scullard; Deseronto, Dr. Newton; Dundas, W. H. Moss; Dunnville, G. R. Smith; Dresden, J. R. Carscallen; Durham, W. Calder; Forest, N. McCahill; Gravenhurst, H. Slater; Galt, Thos. Patterson; Goderich, Dr. Macklin; Gananoque, J. A. McCammon; Hawkesbury, F. Berthiaume, reeve; Hespeler, G. D. Forbes; Harriston, W. J. Jackson; Hanover, J. Taylor; Hull, Augustus Trebault (re-elected); Ingersoll, Geo. Sutherland; Kingston, Dr. A. E. Ross; Kingsville, Darius Wigle; Leamington, Norman Patterson; Lancaster, W. Brady, reeve; Lindsay, James B. Begg; Listowel, Andrew Foerch; London, W. Steveley; Midland, E. Letherby; Mount Forest, Dr. Allen; Niagara Falls, Richard F. Carter; Norwich, H. S. Moore, reeve; North Bay, W. H. Milne; Owen Sound, Matthew Kennedy; Orillia, R. Guss Curran; Oakville, W. S. Davis; Ottawa, Mayor Scott (re-elected); Picton, J. A. Clapp; Paris, John M. Patterson; Peterboro, M. H. Rush; Prescott, L. H. Daniels; Petrolea, A. C. Edwards; Penetanguishene, Alphonse Tessler; Parry Sound, F. L. Watson; Port Carling, J. Cope, reeve; Port Hope, W. H. Giddy; Renfrew, John McKay; Ridgetown, Philip Henry; Strathroy, J. W. Cameron; Southampton, A. E. Belcher; St. Mary's, J. Willard; St. Thomas, Ald. Geo. Geddes; Seaforth, T. E. Hayes; Smith's Falls, J. B. Lyle; Sarnia, Geo. A. Proctor; Sault Ste. Marie, W. J. Thompson; Steelton, Alex. McIntyre; Sturgeon Falls, Nap. Roy; Stratford, Wm. Gordon; Stayner, A. J. F. Sullivan; Thorold, William Williams; Trenton, Jesse Funnell; Tilsonburg, John McIntyre; Toronto Junction, Mayor Baird (re-elected); Thornbury, Dr. S. McCallum; Woodstock, — Sawtell; Windsor, Mayor Wigle (re-elected); Wingham, William Holmes; Welland, J. N. Crow.

INCORPORATIONS

Concrete Contracting Company, Buffalo, N. Y.; contract for building and laying of walks or floors; capital, $5,000. Incorporators: Frank C. Westphal, 475 Winslow avenue; Harry A. Allen, 76 Garner avenue; Linda Hankin, 227 Riley street, all of Buffalo.

Electric Perfect Filter Company, New York, N. Y.; to manufacture filters; capital, $100,000. Incorporators: Charles Watson, Seattle, Wash.; E. A. Cohn, 111 Broadway; Samuel Packard, 97 Nassau street, both of New York City.

Ellis, Evans & Co., Glens Falls, N. Y.; general contractors; capital, $1,000,000. Incorporators: William F. Ellis, Stamford, Conn.; George O. Evans, Hewitt, N. J.; S. H. Gardinor, New York City.

German Valley Water Company, Washington Township, N. J.; to operate water works in Washington Township; capital, $10,000. Incorporators: Edwin J. Neighbour, Edward Sutton, John Holthusen, John T. Naughright, David S. Trimmer, Jesse Weise, Henry M. Neighbour, as above.

Golconda Light and Water Company, Golconda, Ill.; capital, $12,000. Incorporators: J. O. Williamson, R. Gilbert and R. H. Williamson.

Imperial Road Company, New York, N. Y.; capital, $250,000. Incorporators: Charles A. Voetsch, 526 West 147th street; William H. Wurts, 38 Washington Park West, both of New York; Lester L. Callan, 57 Ashford street, Brooklyn, N. Y.

Jefferson County Telephone Company, Watertown, N. Y.; telephone line; capital, $40,000. Incorporators: Charles H. Anthony, Sylvanus V. Barker, Charles E. Brown, Watertown, and others.

Stewart Engineering Company, Newark, N. J.; electricians, mechanical engineers, etc.; capital, $25,000. Incorporators: Shellman T. Stewart, 47 Gould avenue; Arthur M. Woodford, 800 Broad street; Willard Dimsey, 183 New York avenue, all of Newark, N. J.

Wilcox Bond Company, New York, N. Y.; real estate, engineering and contracting; capital, $25,000. Incorporators: Francis P. Pace, H. C. S. Stimpson, A. R. Wilcox, 42 Broadway, New York, and others.

TRADE NOTES

Cast Iron Pipe.—Chicago: Improved demand noted for lots of 50 to 100 tons, representing water works extension requirements. Quotations: water pipe, 4-inch, $30; 6 to 12-inch, $29; 16-inch and up, $28, with $1 extra for gas pipe. Birmingham: small lettings amount to a considerable tonnage and order books are in good condition. Prices: 4 to 6-inch, $28; 8 to 12-inch, $26; over 12-inch, average $25, with $1 extra for gas pipe. New York: Numerous inquiries for small lots, but factories will run on short time until nearer the opening of spring trade. Prices: carload lots of 6-inch, $26 to $27 a ton at tide water.

Pig Lead.—Market dull and unchanged. Prices: 3.75 cents in New York and 3.65 cents in St. Louis. Far futures unobtainable.

Calendars Received. — The Eureka Hose Manufacturing Company, 237 Broadway, New York City, has sent us an illustrated wall calendar. Accompanying it is a poster suitable for hanging up in a fire house, giving brief directions for the care of hose.

A. L. Barber Asphalt Company, West Street Building, New York City; an office calendar with white figures on a dark blue background.

William Mann Company, stationers, 105 Chambers street, New York City. Office calendar, blue figures on light pink background.

Rhodes, Curry & Co., Limited, manufacturers of street cars and furniture for public buildings, Amherst, Nova Scotia, Canada. Office calendar with illustration of company's plant.

Pittsburg Meter Company, East Pittsburg, Pa., manufacturer of Keystone and Eureka water meters and Westinghouse dry and fluid gas meters. Office calendar, black figures on tinted backgrounds, differing in color for each month.

Woronoco Paper Company, Woronoco, Mass. Small wall calendar, handsomely printed on fine quality of paper.

George A. Powers Printing Company, 185 Sixth avenue, New York. A small wall calendar, very handsomely printed, with a very excellent portrait of George Washington.

Cement Mill Resumes.—Announcement has been made by the officials of the Sandusky Portland Cement Company that its plants at Baybridge O., Syracuse, Ind., and Dixon, Ill., will be reopened February 15. The cement works at Castalia, O., will reopen February 10. Hundreds of men will go back to work, having been idle since early in December.

Gas Arcs.—The Welsbach Company has made a proposition to the Board of Public Safety of Indianapolis, Ind., offering to place thirty-one gas arcs in the market space under Tomlinson Hall and maintain them free of charge for a month. At the end of that time, if desired, the company will bill them to the city for $248 and maintain them, keep them clean, in good repair, and with efficient mantles for 10 cents a lamp a week. The total cost, including gas, is estimated at $84 a month. Last year it cost the city $1,884 to light the market. Under the Welsbach plan it is believed the cost will be only $1,256 for the first year and less in succeeding years. The company is said to have 250,000 street lights of all kinds in operation in the United States.

Garbage Plant. — The Evansville Smokeless Fuel and Fertilizer Company, which has the city's contract for disposal of all garbage and carcasses, will have its new plant ready for operation as soon as the electric generators arrive. They are expected soon, and it is probable that the fertilizer and garbage consumption plant will be working by Feb. 15. The new dead animal wagon has been received. It is wide and low-bodied and is equipped with a windlass to load large carcasses.

Steel Sheeting.—George M. Jackson, Inc., 169-179 West Jackson boulevard, Chicago, Ill., has placed on the market a style of steel sheeting which can be assembled in the field in a short time. It has no loose clips to become detached. The forged steel clips that are on the I-beam in place are bolted on after the second I-beam is started. The clip on the next I-beam makes a guide for driving this piece. It is claimed that more of this sheeting can be driven in a day than any other style, as it offers less resistance to soils.

Street Cleaning Apparatus.—The Hon. John H. Bonner, mayor of Tyler, Tex., writes that his city wants catalogues of street cleaning apparatus.

Corliss Engines.—The Murray Iron Works, Burlington, Ia., publishes a pamphlet describing and illustrating the Corliss engine. The diagrams are exceptionally clear and complete, showing the details and name of every part of the engine.

PATENT CLAIMS

875,496. High Pressure Valve. James A. Bishop, Chicago, Ill. Serial No. 348,425.

In a high-pressure valve, the combination of a casing, a cross wall within the casing dividing the interior of the casing into an inlet passage and an outlet passage, a ring carried by the cross wall and having a seating face on each side, a first and second valve plug oppositely movable in relation to each other, and each valve plug having an acting face to coact with the seating face of the ring, a divided valve stem, one section adjustably entered into the first valve plug and the other section integral with and continuing from the first valve plug and adjustably entered into the second valve plug, and means for actuating the first section of the stem and simultaneously advancing and withdrawing both valve plugs, substantially as described.

875,518. Sectional Sewer Mold. George Georgenson, Wilmington, N. C. Serial No. 368,524.

A sewer mold, comprising a series of staves curved in cross section and of greater length than width, each bearing along one longitudinal edge one or more laterally projecting tongues, and on the other longitudinal edge one or more loops in the same transverse plane with the tongues and also having hook shaped clips at the ends on the inner sides and circular brace hoops with overlapping slotted ends arranged inside the panels and between the panels and the hook clips, said hoops being provided with bolts for adjustably connecting its ends.

875,984. Portable Apparatus for Liquefying and Purifying Sewage. Frederick J. Commin, Exeter, England, assignor to Cameron Septic Tank Company, a Corporation of Illinois. Serial No. 297,890.

A portable apparatus for the treatment of drainage, comprising primary treating and filter tanks nestable for transportation and separable for installation; the primary treating tank having a nondisturbing inlet and a nondisturbing outlet, and the filter tank comprising an outer casing having a low outlet and a perforated inner casing disposed in said outer casing with a ventilating air passage between them, said inner casing having means for supporting filtering material.

876,066. Automatic Fluid-Pressure Regulator. Archie Klever, Hannibal, Mo. Serial No. 380,491.

A fluid pressure regulator comprising a casing having an inlet and a discharge port, a pressure regulating plate hingedly mounted in said casing and adapted to be acted upon by the pressure of the fluid entering the latter, a segmental cut-off shoe formed integral with and projecting laterally from said plate, and adapted to be swung thereby across the discharge port of said casing, a pressure regulating spring arranged on said regulating plate, and an adjusting screw to regulate the tension of said spring, substantially as described.

876,147. Valve Disk. Alexander W. Cadman, Pittsburg, Pa. Serial No. 240,917.

A reversible disk valve, comprising an inner relatively soft metallic ring, and an outer surrounding retaining ring of harder metal, the inner ring having its peripheral portion constructed to compensate for the shrinkage of the outer ring; substantially as described.

876,222. Water Distribution for the Prevention of Fire. George M. Newhall, Philadelphia, Pa. Serial No. 261,605.

The combination of gravity moved closing means disposed on the inside of a window opening of a building, means at the top of said opening of discharging a spray of water upon the outer surface of said closing means when the latter is in the closed position, and means for catching the water at the lower part of the shutter and conveying it away.

876,270. Concrete Mixer. Robert B. Fulton, Red Cloud, Neb. Serial No. 295,565.

A concrete mixer comprising a main frame, a drum rotatably supported in the frame and inclined with respect thereto, a tank supported adjacent to the drum, a pipe leading from the tank into the drum, said pipe being perforated within the drum, a shaft having a disk adjacent to the drum at the upper end thereof, said disk having pins projecting from the face thereof and extending into said drum, an auxiliary frame connected with the main frame at the upper end of the drum, a sand hopper and a cement hopper supported by the auxiliary frame, means for feeding cement and sand in unequal quantities, said feeding means delivering to the hopper immediately above the disk, and means for rotating the drum and disk.

876,301. Washer for Fire Hose. Samuel Cunningham, Lockport, N. Y. Serial No. 390,768.

A hose washer comprising a pipe, a rotatable perforated sleeve therein, through which the hose is drawn, and means to cause a flow of water through the perforations in the sleeve.

876,377. Roadway. George A. Mitchell, Arthur J. Mitchell, and Ernest E. Mitchell, London, England. Serial No. 388,041.

A roadway, footway and the like comprising the combination of a foundation of concrete, and a composition spread on said foundation, said composition comprising 40 parts of broken granite, 30 parts of asphalt, 10 parts of bitumen, and approximately equal proportions of cement, asbestos, carbonate of soda, chalk, sand and shell to make up the remaining 20 parts, the ingredients of said composition being previously mixed and boiled, substantially as set forth.

876,404. Traction Fire Engine. William H. Shafer, Cincinnati, O. Serial No. 331,607.

The combination of a truck, a multiple explosive engine thereon, propelling mechanism for the truck, means for detachably engaging the engine therewith, a multiplex force pump in continuous engagement with the engine, a radiator, a water jacket for the engine, pipes in continuous communication therewith from the radiator, and valve controlled branch pipes leading therefrom to the pump.

876,512. Fire Alarm System. Martin A. Abrahamson, Copenhagen, Denmark. Serial No. 243,642.

In a fire alarm system, a primary circuit, thermostats therein controlling the circuit through the system, electro-magnets energized by current in said circuit, armatures controlled by said magnets under different current conditions regulated by the thermostats, two auxiliary circuits controlled by said armatures, and a third circuit controlled by said two secondary circuits.

876,727. Street Sweeper. Charles K. Pevey, Worcester, Mass. Serial No. 264,461.

In a machine of the character described, the combination, with a stationary pan, and a broom, of a series of flexible plates independently hinged to a common rod and forming a continuation of said pan, said rod having a series of fingers extending therefrom, one below each of said plates, and means to rotate said rod whereby all of said plates will be raised simultaneously.

876,754. Street Sign. Albert O. Warner, Denver, Col. Serial No. 340,188.

A device of the character described, comprising a plate, means for securing the plate in position, a sign board pivotally mounted upon said plate, and a cushioning member contacting with said sign board for holding the same in position.

876,846. Road Machine. Stephen W. Smith, Douglasville, Ga. Serial No. 376,203.

A machine of the character described, comprising a traveling support, a laterally extensible frame work suspended from said support, means for extending and contracting said frame work, and scrapers carried by the frame work.

THE WEEK'S CONTRACT NEWS

Relating to Municipal and Public Work—Street Improvements—Paving, Road Making, Cleaning and Sprinkling—Sewerage, Water Supply and Public Lighting—Fire Equipment and Supplies—Buildings, Bridges and Street Railways—Sanitation, Garbage and Waste Disposal—Police, Parks and Miscellaneous—Proposals and Awards

To be of value this matter must be printed in the number immediately following its receipt, which makes it impossible for us to verify it all. Our sources of information are believed to be reliable, but we can not guarantee the correctness of all items. Parties in charge of proposed work are requested to send us information concerning it as early as possible; also corrections of any errors discovered.

BIDS ASKED FOR

STATE	CITY	RECEIVED UNTIL	NATURE OF WORK	ADDRESS INQUIRIES TO
Street Improvements				
New York	Long Island City.	February 5, 11 A.M.	Broken stone and screenings, limestone and trap rock	Jos. Bermel, Pres. Boro. Queens.
Indiana	New Albany	February 6, 10 A.M.	Constructing gravel road in Georgetown township	Julian L. Miller, Co. Auditor.
Missouri	Kansas City	February 6, 11 A.M.	Repairing asphalt pavement, portion 9 streets	E. A. Harper, City Engineer.
Indiana	Brazil	Feoruary 6, 11:30 A.M.	Bldg. 3 stone roads: 33,267 ft, 10,675 ft., 5,285 ft.	James L. Burns, Co. Auditor.
Pennsylvania	Washington	February 6, noon	Repairing, restoring, resurfacing roadway, cleaning, repairing culverts, etc.; 8 miles of 3 roads	Wm. Wylie, Co. Road Eng'r.
Ohio	Dayton	February 6, noon	Bldg. curb and gutter on Kiefer St., Daller St. to railway	J. C. Ely, Pres., Bd. Pub. Serv.
Indiana	Rockville	February 6, 1 P.M.	Constructing 7 gravel roads in Howard township	H. A. Henderson, Co. Auditor.
Michigan	Manistee	February 6, 2 P.M.	Brick, etc., 6,500 sq. yds. on concrete, 3,800 ft. curb, etc.	Geo. B. Pike, City Surveyor.
Massachusetts	Lynn	February 6, 5 P.M.	Laying about 14,000 sq. yds., smooth paving	Geo. I. Leland, City Engineer.
Maryland	Ft. Washington	February 7, 11 A.M.	Constructing macadam roads at post	Constructing Quartermaster.
Ohio	Tiffin	February 8	Wood block floor and sidewalk Wash. St. bridge, cost $33,000	R. R. Bour, County Auditor.
Ohio	Ottawa	February 8	Constructing stone roads	J. T. Maillow, Co. Surveyor.
Pennsylvania	Pittsburg	February 10, noon	38,000 tons ballast and screenings for improved roads	F. P. Booth, Co. Comptroller.
Indiana	Bedford	February 10, 1 P.M.	Constructing 5 macadam roads, 25,816 ft., Marion twp.; road, 1,862 ft. long, Spice Valley township	Walter G Owens, Co. Auditor.
New Jersey	Red Bank	February 10, 6 P.M.	Paving Front and Broad Sts	A. C. Harrison, Town Clerk.
Alabama	Montgomery	February 10	Hexagon tile walks, or Schillenger pavement, etc., Barton Ave.: also furnishing all clay gravel to Oct. 1909	Robt. Tait, City Treasurer.
New Jersey	Jersey City	February 10	Opening, etc., Colgate St., inc. 1,206 cu. yds. earth exc. and 1,048 yds. filling, 425 sq. yds. Belgian gutters, 1,290 lin. ft. 5 x 16" curb, 4,800 sq. ft. flagging; also repaving, etc	Geo. T. Bouton, Clk. St. & Water Bd.
Tennessee	Nashville	February 10	Paving, riprap, exc., Colbert Shoals Canal, Riverton, Ala.	Wm. H. Harpe, Maj. Eng'rs.
Missouri	St. Louis	February 11, noon	Improving and reconstructing various streets	W. B. Dryden, Sec'y Bd. Pub. Impt.
North Carolina	Charlotte	February 11, 4 P.M.	Paving driveways around U. S. Post Office	J. B. Spence, Custodian.
Michigan	Cadillac	February 11	Paving number of streets; brick, bitulithic or cement	Geo. Johnston, City Clerk.
Illinois	Cairo	February 12,	Brick paving, Washington Ave., 51,646 sq. yds.; cost, $129,650.	W. B. Thistlewood, City Eng.
New York	Brooklyn	February 13, 11 A.M.	Furnishing 8,500 cu. yds. sand, 600,000 lbs. paving pitch, 1,200 cu. yds. paving gravel, 7,500 bbls. Portland cement, 60,000 sq. ft. bluestone flag, 2,500 cu. yds. sand	Bird S. Coler, Boro. Pres.
New York	North Olean	Feb'y 13, 7:30 P.M.	Paving Union St., inc. 16,000 sq. yds. brick on concrete, with excavation, curbing street inlets, etc	Knight & Hopkins, Rome, Engrs.
Michigan	Muskegon	February 15, 10 A.M.	Furnishing crushed limestone or fieldstone f. o. b.	County Road Commissioners.
New York	Madison Bar'ks.	February 15, 2 P.M.	Constructing 6,000 ft. concrete sidewalks	R. W. Drury, Con. Q. M. U. S. Army.
California	Santa Monica	February 15	Asphaltum, 2,000 sq. yds. on concrete, inc. curb, etc., $6,000	Thomas H. James, City Engineer.
Indiana	Mt. Vernon	February 17, 2 P.M.	Constructing 5 gravel roads, over 11 miles long	Paul Maier, Co. Auditor.
Georgia	Atlanta	February 17	Furnishing and laying brick, tile and sheet cement sidewalks, setting granite and concrete curb, etc., in 1908	R. M. Clayton, City Engineer.
Kansas	Emporia	February 17	Grading, curbing and paving portion of Neosho St.	G. O. Mathewson, City Clerk.
Washington	Aberdeen	February 19, 5 P.M.	Dyking 5,100 cu. yds.; filling, 1,458,200 cu. yds. in certain streets and alleys; separate bids	H. W. Troutman, City Eng'r.
Florida	Fort Barrancas	February 20, noon	Improving roadway to Barrancas Nat'l Cemetery	Col. J. W. Pope, U. S. A., Atlanta, Ga.
Ohio	Cambridge	February 20	Grading, paving, etc., 3 sts.; 4,976 cu. yds. exc.; 13,245 sq. yds. brick paving; 1,232 lin. ft. curb; 670 ft., 12-15-in. pipe sewer.	A. J. Hall, Pres. Bd. Pub. Serv.
Ohio	Cincinnati	February 21	Improving Hamilton pike in Springfield township	Fred. Dreihs, Clk. Co. Com'rs.
Utah	Salt Lake City	February 21	Improving First South St.	F. J. Leonard. Chm. Bd. Pub. Wks.
Indiana	Terre Haute	February 22, 11 A.M.	Constructing 2 miles 415 ft. gravel road, Henry Creek twp	Nathan G. Wallace. Co. Auditor.
Maine	Fort Williams	March 2, 11 A.M.	Grading at Fort Williams	Capt. F. J. Morrow, U. S. A., Portl'd
Tennessee	Fayetteville	March 2, 7 P.M.	Grading and constructing 4 or 5 miles of sidewalks, asphalt or concrete, not less than 4½ ft. wide; begin May 1	D. M. Goodner, Mayor.
New York	Fort Terry	March 2, 11:30 P.M.	Bldg. 3,400 lin. ft. macadam; 1,200 lin. ft., dirt roads	Capt. Wm. E. Horton, Q. M., U. S. A.
Delaware	Fort Dupont	March 2	Bldg. macadam roads, granolithic sidewalks, concrete curb and gutter and wooden bridge	Capt. J. L. Knowlton, Q. M., U. S. A.
Indiana	Monticello	March 3, noon	Constructing 3.975 ft. stone road in Jackson township	J. L. Ackerman, Co. Auditor.
New York	Fort Wood	April 1, 11:30 A.M.	Constructing roads and walks at post	C. C. Burnell, Q. M., U. S. A.
Water Supply				
New Jersey	Newark	February 6, 3.30 P.M.	Furnishing circular reading disc meters; 1400 ¾-in.; 100 1-in; 10 1½-in.; 30 2-in.; 10 3-in.; 3 4-in.; 3 6-in.	H. R. Sherrerd, Ch. Engr. Street and Water Contr's
New York	Brewster	February 7	Furnishing c. i. pipe, hydrants, gates, gate boxes, etc.	Richard Mitchell, Village Clerk.
New Jersey	Asbury Park	February 8, noon	Erecting, complete, 200 h.p. internal furnace boiler	John. L. Coffin, Supt. Water & Sewer.
Ohio	Youngstown	February 10, noon	Furnishing 500 tons of alum	W. H. McMillin, Clk., Bd. Pub. Serv.
Michigan	Berrien Springs	February 10	Bldg. system of water works, inc. 2 motor-driven pumps, 3 miles of mains, 26 hydrants, 20 valves, etc.	City Clerk.
New York	New York	February 11, 11 A.M.	Labor and material for installing pressure tank, pump, etc., inc. Croton connections to tank, supplying line throughout bldgs., steam, etc., at Work House, Blackwell's Island	John V. Coggey, Com'r Correction.
Georgia	Adel	February 11	Material for waterworks system	H. S. Jaudon, Savannah, Cons. Eng'r
Indiana	South Bend	February 12	Furnishing not less than 250 or more than 750 tons pipe	Water Department.
Alabama	Fort Morgan	February 14	Extension water distribution system at post	Capt. L. F. Garrard Q. M., U. S. A.
New Jersey	Asbury Park	February 15, noon	Furnishing 10 fire hydrants	John L. Coffin, Supt. Dept. W. & S.
New York	Madison Bar'ks.	February 15, 2 P.M.	Constructing 300,000-gal. steel tank	R. W. Drury, Con. Q. M., U. S. A.
Iowa	Washington	February 17, 7 P.M.	Constructing deep well, 1,800 to 2,400 ft. deep	John H. Steck, City Clerk.
Minnesota	Stillwater	February 25	Water works for new State prison; cost, $35,000	State Bd. of Control, St. Paul.
New York	Brewster	February 28	Laying c. i. pipe, etc., building concrete reservoir	Richard Mitchell, Village Clerk.
Texas	Dallas	March 3, 3 P.M.	Furn. 10,000,000-gal. high-service vertical triple expansion condensing crank and fly wheel pump or other engine	J. B. Winslett, City Secretary.
California	Oakland	March 18, 11 A.M.	Labor and material for constructing salt water pumping plant; specifications, etc., at MUN. JOUR.	Walter B. Fawcett, Sec'y Bd. Pub. W.
Sewerage				
New York	Brooklyn	February 5, 11 A.M.	Reconstructing sewer in Guernsey St.; cost, $2,374	Bird S. Coler, Boro. Pres.
Missouri	Kansas City	February 6, 11 A.M.	Constructing sewer in Sewer Dist. No. 89	E. A. Harper, City Engineer.
Missouri	Carterville	February 6, noon	Constructing 12,000 ft. of public sewers	H. E. Moody, City Clerk.
Dist. of Col'bia	Washington	February 7, noon	Constructing sewers	Jay J. Morrow, Eng'r Com'r.
Minnesota	Austin	February 7	Furn. and deliver by June 1, 3,600 ft., 12-in. sewer pipe	T. M. Foster, City Clerk.
Washington	Seattle	February 8	Bldg. north trunk sewer, 29,894 ft. brick or concrete, 36 to 138 in., inc. manholes. 20,000 lbs. extra steel, etc.	R. H. Thompson, City Engineer.

Sewerage—*Continued.*

Oklahoma	Bartlesville	February 10, 6 P.M.	Material and bldg. complete, pictile sewer; 25,000 ft., 8-in; 6,000 ft. 10-in.; 3,500 ft., 12-in.; 700 Y's; 2,600 cu. yds. rock excavation; 35,000 ft. trench, 4 to 16 ft. deep; 85 manholes, 100 cu. yds. concrete	E. C. D'Yarmett, City Engineer.
Pennsylvania	New Castle	February 10, 8 P.M.	Constructing 5th Ward storm sewer, Mill St. to river	A. E. Rhodes, City Clerk.
Mississippi	Hattiesburg	February 10, 8 P.M.	Constructing sanitary sewers: 2,090 ft. 12-in., 15,150 ft. 8-in.; 7 flush tanks, 900 cu. yds. exc., 45,000 ft. B. M. foundation lumber, 2,640 ft. 15-in. sewer, 8,550 ft. 10-in., 90 manholes, 20 cu. yds. concrete masonry, 140,000 ft. B. M. sheeting left in trench	J. H. Putnam, City Engineer.
Illinois	Wilmette	February 13	Constructing relief sewer; new bids	C. N. Roberts, Reaper Blk., C. E.
Georgia	Atlanta	February 17	Furnishing vit. pipe, cement for sewer work, manhole and catch basin covers, and bldg. sewers during 1908	R. M. Clayton, City Engineer.
Kansas	Emporia	February 17	Bldg. extension to storm water sewer in Neosho St.	G. O. Mathewson, City Clerk.
New York	Auburn	February 18	Bldg. sewer in Elm St., bet. Capital and Franklin Sts.	W. Thomas Wooley, City Eng'r.
Ohio	Hamilton	February 18	Constructing Crawford run sewer and ditch, 3 Sections: 1st, from river, 994 ft. to Peck Ave., cost $10,802.70; 2d, to where closed sewer begins, 3,600 ft., cost $10,207.40; 3d, closed sewer, 2,700 ft. long, cost $50,708.10	County Commissioners.
Maryland	Baltimore	February 19, 11 A.M.	Bldg. West Low Level Interceptor, Sec. No. 3: 1,876 ft. 66-in. sewer; 1,355 ft. 60-in., 80 ft. 30-in., 2 bell mouths	Peter Leary, Jr., Chm. Sewer Com.
Ohio	Eaton	February 19, noon	Constructing sewers and a disposal plant, inc. 109,500 ft. 6-24-in. sewer pipe; 8,830 ft., 27-42-in. brick or concrete sewer, manholes, etc., 4-24-ft. deep	A. L. Reid, City Engineer.
Dist. of Col'bia.	Takoma Park	February 24	Constructing sewer system on Armory hosp. reserv., inc. sewage tank, pump pit, pumps and motor	Capt. H. L. Pettus, Q. M., U. S. A.
Ohio	Mingo Junction	March 1	Bldg. Concrete or brick sewers, to cost $25,000	S. E. Floyd, Wintersville, C. E.
Mississippi	Charleston	March 3, 10 A.M.	Constructing main ditch, 4 x 20 ft., 4 miles long	E. Bacon, Sec'y, Co. Drain Com'rs.
New York	Auburn	March 17, 8 P.M.	Bldg. sewers and disposal plant; 4 wards, $100,000,inc. 14,700 ft. 8 in., 11,300 ft. 10 in.; 6,000 ft., 20 in.; 3,600 ft., 15 in.; 300 ft., 18 in.; 1,250 ft. 20 in.; 16,000 cu. yds. exc., 5 to 18 ft. deep; 17,000 ft., 5-in. vit. tile; also 20,000 ft., 4 in.; 6,000 ft., 6 in.; 7,000 ft., 8 in.; 2,000 ft., 10 in.; 200 ft., 12 in., of seconds; 84 manholes, 9 ft. deep; 12 flush tanks; 12 lamp holes; also reinforced concrete septic tanks and contact beds and auto. closing appliances	W. Thomas Wooley, City Engineer.

Public Buildings

Kansas	Fort Riley	February 6, 10 A.M.	Constructing several bldgs., etc., at post	Capt. W. W. Whitman, Q. M.
Indiana	Goshen	February 6, 2 P.M.	Alterations, etc., Elkhart Co., Court House	D. O. Batchelor, Co. Auditor.
New York	Springville	February 6	Building $75,000 school; also heating and ventilating	E. E. Joralemon, Niag. Falls, Arch.
Virginia	Fort Monroe	February 7, 10 A.M.	Constructing 10 sets officers' quarters, complete	Capt. Ernest R. Tilton, Q. M.
Missouri	Bloomfield	February 7, noon	Furn. material, bldg. addition, etc., to Co. Court House	J. N. Punch, County Clerk.
Indiana	Auburn	February 7, noon	Constructing new County Asylum	County Commissioners.
Indiana	Windfall	February 7, noon	Bldg. heat plant, pneumatic water supply, closet system	School Board.
Illinois	Clinton	February 7, 8 P.M.	Erecting new high school building	Spencer & Temple, Champaign, Arch.
North Dakota	Cheyenne	February 7	Erecting 4-room school building	J. E. Johnson.
Pennsylvania	Norristown	February 7	Materials, etc., for erecting $60,000 hospital building	John L. West, Steward, St. Hosp. Ins.
Missouri	St. Louis	February 7	Erecting Walnut Park School	Wm. B. Ittner, Com'r School Bldgs.
Washington	Seattle	February 7	Erecting Columbia Heights and Fairview Schools	Board of Education.
Minnesota	Rochester	February 8	Erecting $50,000 nurses' dormitory	City Clerk.
Minnesota	Fergus Falls	February 8	Bldg. $10,000 extension to contagious disease hospital; also plumbing and heating 2 asylums, $5,000 each	State Board of Control, St. Paul.
Ohio	Youngstown	February 8	Constructing Court House for Mahoning County	J. Stambaugh, Chm. Co. Com'rs.
Ohio	Norwalk	February 10, noon	Repairing Co. Court House, inc. new sanitary closets	F. O. Ronk, Co. Auditor.
Alabama	Seale	February 10	Remodeling County Court House	T. F. Lockwood, Columbus, Ga. Arch.
Ohio	Cleveland	February 10	Sanitary work, etc., 5 schools; sheet metal work, etc. one	Geo. Myers, Clk., Bd. Education.
Kentucky	Hickman	February 10	Erecting $10,000 library, Bd. Educ'n, S. K. Davidson, Sec'y	Whitfield & King, N. Y. City, Archts.
New York	Weedsport	February 10	Erecting school, Dist. No. 2; bids separate or whole	J. Mill Platt, Rochester, Arch.
Nebraska	Orleans	February 10	Furn. material and bldg. school; also heating plant	John Latenser, Bee Bldg., Omaha, Architect.
New York	New York	February 10	Furn. and delivering bldg. materials, Dept. St. Cleaning	Foster Crowell, Commissioner.
Minnesota	Slayton	February 10	Install. low-pressure steam heating plant, Co. poor House	Thori, Alban & Fisher, St. Paul, Arch.
New Jersey	Newark	February 11, 2:30 P.M.	Plumbing, wiring, etc., Essex Co. Prison bldgs.	Hurd & Sutton, Union Bldg., Archs.
Tennessee	Chattanooga	February 11, 3 P.M.	Erecting, complete, extension to Federal Building	James Knox Taylor, Wash., D. C.
Texas	Big Springs	February 11	Erecting 2-story County Court House	Lang & Witchell, Dallas, Arch.
Missouri	Warrensburg	February 11	Erecting training school, etc., State Normal School	Miller & Opel, Jefferson City, Archts.
Michigan	Agricultural Col.	February 11	Erecting building, to cost $125,000	A. M. Brown, Sec'y Agr. College.
Michigan	Lansing	February 13	Erecting $125,000 agricultural building	A. M. Brown, Sec'y Mich. Ag'l Col.
West Virginia	Bluefield	February 14, 3 P.M.	Constructing, complete, Federal Building	James Knox Taylor, Wash., D. C.
North Dakota	La Moure	February 14	Erecting County Court House	Buechner & Orth, St. Paul, Minn., Architects.
Ohio	Ashtabula	February 14	Erecting 2-story, 4-room addition, Central School	C. N. Campbell, Clk., Bd. Educ.
Connecticut	Willimantic	February 15	Model school at normal school; cost, $50,000	T. D. Bradstreet, Hartford, St. Con't.
Montana	Missoula	February 15	Erecting library for University of Montana	A. J. Gibson, Architect.
Kentucky	Owensboro	February 15	Erecting 8 room school, G. T. Horn, Chm. Bd. Educ'n.	R. A. Bradley, Am. Cent. Life bldg. Indianapolis. Ind., Archt.
Minnesota	Mankato	February 15	Erecting $65,000 normal school	State Board of Control, St. Paul.
Minnesota	St. Peter	February 15	Erecting $65,000 tuberculosis hospital	State Board of Control, St. Paul.
Arkansas	Conway	February 15	Erecting a $40,000 school building	City Clerk.
Michigan	Detroit	February 15	Building brick police station; also plumbing and heating	Louis Kamper, Fine Arts Bldg., Arch.
Ohio	Cincinnati	February 17, noon	Erecting $750,000 high school, 272x102 ft., whole or separate; also heating and ventilating system, Westwood School Bldg.	Dr. J. M. Withrow, Bd. Educ.
Utah	Ogden	February 17, 3 P.M.	Constructing addition to Federal Building	James Knox Taylor, Wash. D. C.
Virginia	Richmond	February 17, 6 P.M.	Bldg. addition to Fairmount School; also heating system	A. F. Huntt, 1107 E. Main St., Archt.
Texas	Alpine	February 17	Erecting 2-story brick, stone or concrete school	H. T. Phelps, San Antonio, Archt.
Ohio	Columbus	February 17	Furn. material and install. hot-water system, Blind School	Stribling & Lum, Archs.
North Dakota	Esmund	February 17	Bldg. 4-room brick or concrete school; also heat, etc.	W. Quennell, Clk., School Dist.
Iowa	Des Moines	February 18, noon	Erecting $20,000 administration building, State Fair Grounds	J. C. Simpson, Sec'y St. Bd. Agr.
New Mexico	San Juan	February 18, 2 P.M.	Erecting school bldg. and hospital, San Juan School	Wm. T. Shelton, Shiprock, Supt.
Ohio	Columbus	February 18, 3 P.M.	Erecting addition, remodeling, etc., Federal Building	James Knox Taylor, Wash., D. C.
Wisconsin	La Crosse	February 18	Bldg. normal school; cost, $200,000	Van Ryn & De Gelleke, Milwaukee.
Connecticut	Meriden	February 18	Constructing State armory; cost, complete, $90,000	T. D. Bradstreet, Hartford, St. Con't.
Dist. of Col'bia.	Washington	February 20, 2 P.M.	Putting in place, complete, flooring of Tenn. marble or Venetian mosaic, etc., wall bases, ornamental iron work, terra cotta, fireproofing, etc., National Museum building	Bernard R. Green, Supt. Constr.
Michigan	Flint	February 20	Erecting City Hall, except lighting, etc., cost, $65,000 to $75,000	Van Leyen & Schilling, Detroit, Archs
Louisiana	New Orleans	February 20	Erecting, etc., 5-story fireproof Delgado Mem. Hospital	Crosby & Henkel, Morris Bldg., Arch
Arkansas	Pine Bluff	February 21, 3 P.M.	Constructing, complete, U. S. Post Office	James Knox Taylor, Wash., D. C.
Massachusetts	S. Hadley Falls	February 22	Competitive plans for combination Town Hall and School bldg; also for 4-room school, with assembly hall, etc.	M. J. Judge, Sec'y Sp. Com.
Minnesota	Caledonia	February 22	Erecting a School, District No. 71	J. G. Alstad Clk., School Board.
Minnesota	St. Paul	February 24	Bldg. $30,000 school; remodeling one, $15,000	Jno. J. O'Brien, Sec'y Bd. Educ.
Virginia	Fort Myer	February 24	Erecting 21 sets officers' quarters, barracks, etc	Capt. B. B. Hyer, Q. M., U. S. A.
Wisconsin	Marinette	February 25, 3 P.M.	Constructing U. S. Post Office	James Knox Taylor, Wash., D. C.
Mississippi	Magnolia	February 25	Erecting a brick school	W. J. Bryan, New Orleans, La., Arch.
Alabama	Tuscaloosa	February 28, 3 P.M.	Constructing, except elevators, Federal Building	James Knox Taylor, Wash., D. C.
Kansas	Winfield	March 1	Plans for $80,000 Court House, jail and jailer's residence	County Board.
Michigan	Saginaw	March 1	Building 4-story, 110 x 180 ft. auditorium; cost, $100,000	W. T. Cooper, 308 Hayden St., Arch.
Wisconsin	Madison	March 2, 10 A.M.	Constructing women's building; University of Wisconsin	M. E. McCaffrey, Act. Sec'y Univ.
Colorado	Colorado Springs	March 2, 3 P.M.	Constructing, complete, Federal Building	James Knox Taylor, Wash., D. C.
Wisconsin	Edgerton	March 2	Building $40,000 Mem. high school; 2-story brick	Leonhouts & Guthrie, Milwaukee, Architects.
Iowa	Waukon	March 2	Ventilating and heating plant in Public School	E. D. Purdy, Sec'y School Bd.
Indiana	Connersville	March 3	Making improvements at County Court House	J. L. Kennedy, Co. Auditor.
Minnesota	Duluth	March 4, 3 P.M.	Constructing, complete, extension to Federal Building	James Knox Taylor, Wash., D. C.
Minnesota	Red Wing	March 5, 3 P.M.	Constructing, complete, U. S. Post Office	James Knox Taylor, Wash., D. C.

Public Buildings—*Continued.*

New York	Rochester	March 8, 3 P.M.	Constructing, complete, except elevator, exten. to Federal Bldg.	James Knox Taylor, Wash., D. C.
Indiana	Anderson	March 15	Erecting $125,000 high school, R. P. Laggett & Co., Architects.	J. D. Pearcy, Supt. School Bd.
Iowa	Des Moines	March 15	Erecting new City Hall, to cost about $250,000	Proudfoot & Bird, Crocker Bldg., Architects.
Virginia	Richmond	March 23	Erecting combined market and armory building; cost, $100,000; also designs, drawings, etc	C. E. Bolling, City Engineer.
Pennsylvania	New Castle	May 1	Erecting 3-story brick and stone high school, 200 x 190 ft., estimated cost, $250,000	W. G. Echles, Lawrence, Tr. Bldg. Architect.

Bridges

New York	New York	February 6, 2 P.M.	Bldg. additional girder supports for main towers Williamsburg or new East River bridge	J. W. Stevenson, Com'r Bridges.
Minnesota	Austin	February 7, 2 P.M.	Labor and material for all steel bridges ordered during 1908 in 10 towns, from 30 to 100 ft. long, including foundations, and cement floors; plans, etc., also	Geo. Robertson, Co. Auditor.
Virginia	Carterton	February 8	Plans, etc., for constructing iron bridge over Clinch River; 2 spans, about 200 ft. and 75 ft. approaches	Silas B. F. Counts, Sec'y Bd. Com'rs
New Mexico	Albuquerque	February 10, 10 A.M.	Repairing bridge over Rio Grande at Baretas	A. E. Walker, County Clerk.
Utah	St. George	February 10, noon	Constructing steel bridge over Rio Virgon	F. L. Daggett, Chm., Co. Com'rs.
Ohio	Cleveland	February 10, noon	Bldg., complete, bridge on Clark Ave	A. R. Callow, Sec'y, Bd. Pub. Serv.
Pennsylvania	Etna	February 10, 5 P.M.	Erecting 2-stone or concrete abutments, Grant Ave	A. R. Dunbar, Boro. Clerk.
New Brunswick	Fredericton	February 10	Constructing Ryan Brook bridge, over Nasbwaak River	C. H. La Billois, Ch. Com'r Pub. Wks.
Missouri	Joplin	February 10	Constructing viaduct, to cost $50,000	J. B. Hodgdon, City Engineer.
New York	Sybertsville	February 11, noon	Rebldg. sub. and superstructure bridge over creek	Sam'l B. Rambo, Supt. Pub. Bldgs. & Goods.
Utah	Junction	February 11, 2 P.M.	Bldg. wooden bridge over Sevier River, 3 miles south	Edwin E. Sprague, Clk., Co. Com'rs.
North Dakota	Grand Forks	February 11, 2 P.M.	Erecting all steel, also all wooden bridges to be built during 1908; bids by lin. ft.	Hans Anderson, County Auditor.
Texas	Beeville	February 11	Erecting iron bridge over Paista Creek	W. W. Dodd, County Clerk.
Ohio	Cleveland	February 12, 11 A.M.	Erecting 3 concrete steel bridges, 2 townships	A. B. Lea, County Surveyor.
Missouri	St. Charles	February 13	Erecting Cuivre River bridge at Old Monroe: cost, $8,000	County Commissioners.
Missouri	Huntsville	February 14	Bldg. sub. and superstructure of low truss bridge, capacity 1,200 lbs. per sq. ft	N. A. Matlock, Design Eng'r.
Mississippi	Biloxi	February 15, 3 P.M.	Bldg. lagoon bridge, etc., Quar. Sta., Ship Island	James Knox Taylor, Wash., D. C.
Indiana	Borden	February 15	Bldg. iron bridge, piers and abutments over Muddy Fork	Peter Nachand, Co. Auditor.
Mexico	Monterey	February 15	Bldg. steel superstructure, two 74-ft., 2-in span bridge, etc., row of stores and st. railway; also for propositions with diagrams for bridge, etc	Alfred Giles, San Antonio, Tex., C. E.
Ohio	Youngstown	February 17, 11 A.M.	Steel joists and creo wood block floor, Lant. Falls br	Will B. Jones, County Auditor.
Ohio	Newark	February 17, 1:30 P.M.	Bldg. 3 steel bridges, about 80 ft. span	E. S. Jackson, Asst., Co. Eng'r.
Texas	Rosenberg	February 17, 2 P.M.	Erecting steel highway bridge over Brazos River	Jno. W. Maxcy, Houston, Cons. Eng.
Nebraska	Grand Island	February 18	Bldg. all cement, metal and wooden bridges in 1908	C. H. Poell, County Clerk.
Louisiana	Alexandria	February 24	Steel span bridge, pile trestle approach	Ira W. Sylvester, Cons. Eng'r.
Mississippi	Gulfport	March 2	Bldg. drawbridge over river, near Morris's Ferry	F. S. Hewes, County Clerk.
Nebraska	Neligh	March 3, noon	Bldg. all Co. bridges, 20 to 100 ft. long, during 1908	W. H. Morgan, County Board.
Minnesota	Fergus Falls	March 6, 8 P.M.	Bldg. rein. concrete bridge; also with plans, etc	C. A. P. Turner, Minnpls., C. E.

Lighting and Electricity

Indiana	Goshen	February 6, 2 P.M.	Gas and electric light fixtures, dome Co. Court House	D. O. Batchelor, Co. Auditor.
Dist. of Col'bia	Washington	February 6	Switchboards, exciter, etc., Isth. Canal Com'n	Col. H. F. Hodges, Gen. Pur. Agt.
Illinois	Chicago	February 7, noon	Lighting and fixtures for sunday schools	Business Manager, Bd. Education.
Washington	Seattle	February 8	Installing system of cluster lights on Third and Fourth Aves., Prefontaine Place	R. H. Thomson, City Engineer.
Wisconsin	Milwaukee	Feb. 13, 10:30 A.M.	Furn. & erecting on foundations of city, all machinery, etc., for complete gas-producer plant for city; plans, $25	Chas. J. Poetsch, City Engineer.
Dist. of Col'bia	Washington	February 15, noon	Furn. quantities electric conduit, etc., Senate Office bldg	Elliott Woods, Supt. Capitol.
Washington	Seattle	February 15	Constructing system of cluster lights, on Third Ave.; cost, estimated at $51,200	C. B. Bagley, Sec'y, Bd. Pub. Wks.
New Jersey	Park Ridge	February 17	Improvements at electric light station, inc. rebuilding dytic well, reinforcing and raising height of dam; bldg. concrete spillway; 30 kw. gasoline driven direct-connected unit, etc	Geo. T. Hanchett, N. Y. City, C. E.
New York	West Point	February 20, noon	Furn. and installing light fixtures in 5 bldgs	Quartermaster, Military Academy.
Iowa	Ft. Des Moines	February 24	Electric wiring, fixtures, etc., 4 sets officers' quarters	Capt. J. J. Boniface, Q. M., U. S. A.
Georgia	Augusta	February 25, 3 P.M.	Furn. electric switchboard, motor, generator sets, motors, air compressor, pneumatic hammer, cranes, etc	Commanding Officer, Arsenal.
Louisiana	Lecompte	March 1	Constructing electric lighting plant, estimated cost, $10,000	W. H. Jones, City Clerk.
Minnesota	Jackson	March 4	Installing electric light fixtures, new Court House; cost, $1,600	P. D. McKellar, Co. Auditor.
Indiana	Mt. Vernon	April 1	Lighting streets for 10 yrs., from July 1, 1909 with electric lights, plant to consist of 85 2,000 c.p. enclosed arc lamps; 11 yr. franchise for commercial and residence lighting, 900 with contract	Henry Kling, City Clerk.
Georgia	Lafayette	May 1	Constructing electric lighting plant	J. A. Clements, City Recorder.

Miscellaneous

New York	Long Island City	February 5, 11 A.M.	Removal snow and ice, 1st, 3d, 4th, 5th districts	Jos. Bermel, Pres. Boro. Queens.
Indiana	Jeffersonville	February 5	Furn. iron, steel and mis. supplies for Manila, P. I	J. M. Marshall, A. Q. M. G., U. S. A.
New York	New York	February 6, 10 A.M.	Furnishing horse equipment and harness supplies	Theo. Bingham, Police Com'r.
Ohio	Cleveland	February 6, noon	One rotary steam-jacketed percolator, garb plant	A. R. Callow, Sec'y Bd. Pub. Serv.
Wisconsin	Beloit	February 6	Furn. heat and erecting hose drying tower, 6 x 8 x 60 ft	Robt. Coldwell, City Eng'r.
Dist. of Col'bia	Washington	February 6	Boiler room equipment, power plant, etc., Isth. Can. Com'n	Col. H. F. Hodges, Pur. Agt
New Jersey	Orange	February 7, 8 P.M.	Repairing hook-and-ladder truck; furn. 5 new ladders, etc., and putting apparatus in first-class order	Geo. A. Martin, Pres. Fire Com'rs.
New Jersey	Newark	February 8, noon	Furn. steel and wood furniture annex to City Hall	C. E. Tobin, Clk., Bldg. Com'rs.
Pennsylvania	Pittsburg	February 10, noon	Hauling ballast, etc., for Allegheny Co.; bids per ton	F. P. Booth, County Controller.
Alabama	Riverton	February 10	Exc., riprap., paving at Colbert Shoals Canal	Maj. Wm. H. Harpe, Nashville, Tenn.
Massachusetts	Fort Strong	February 10	Making repairs to wharf at Fort Strong	Capt. Ira L. Fredendale, Q.M.U.S.A.
Missouri	St. Louis	February 11, noon	Furn. tools, labor, machinery and buildings for reduction of garbage for a term ending Sept. 1, 1918	W. B. Dryden, Sec'y Bd. Pub. Imp.
Missouri	St. Louis	February 11, noon	Street sprinkling in the Twelfth District	J. A. Travilla, St. Com'r.
Ohio	Cleveland H'ts	February 11	Furn. 3 jumper hose reels, cap. 600 ft. 2½-in. fire hose; also 2,500 to 3,000 ft. 2½-in. double jacket fire hose and combination hook-and-ladder truck	Wm. G. Phare, Village Clerk.
New York	Brooklyn	February 13, 11 A.M.	8,520 cu. yds. sand, 600,000 lbs. paving pitch, 1,200 cu. yds. paving gravel; 7,500 bbls. Portland cement; 60,000 sq. ft. blue stone flagging; 2,500 cu. yds. sand	Bird S. Coler, Boro Pres.
Pennsylvania	Pittsburg	February 13, noon	Plank road material	F. P. Booth, County Controller.
Pennsylvania	Pittsburg	February 13, noon	Furn. 275,000 ft. B. M. white oak plank and timber	F. P. Booth, County Controller.
Michigan	Muskegon	February 15, 10 A.M.	Furnishing 4,980 cu. yds. coarse crushed limestone, 2,985 cu. yds. medium 1,975 cu. yds. screenings	J. B. Barlow, Clk. Co. Rd. Com'rs.
Mississippi	Biloxi	February 15, 3 P.M.	Bldg. boat-house and ways and lagoon bridge	Medical Officer, Quar. Station.
Illinois	Rock Island	February 17, 2 P.M.	Bldg. and repairing dams and shore protection, etc	C. S. Riche, Major Engrs., U. S. A.
Missouri	Jefferson Bar'ks.	February 18, 11 A.M.	Bldg. concrete platform at railroad track	O. W. Bell, Q. M., U. S. A.
New York	Albany	February 18	Work Contract 17, State Canal, on Mohawk river, left uncompleted by cancellation of contract	F. C. Stevens, Supt. St. B P. W.
Pennsylvania	Pittsburg	February 24, noon	Furn. three 400-gal. road sprinklers, central discharge	F. P. Booth, County Controller.
Wisconsin	Milwaukee	February 24, 2 P.M.	Bldg. rein. concrete caisson, break-water pile pier, and plank cribs, removing old piers and dredging	W. V. Judson, Maj. Eng'rs. U. S. A.
Ontario	Peterboro	March 12	Work on Sec. 3, Ontario-Rice Lake Div. Trent Canal	L. W. Jones, Ottawa, Sec'y, D.R.&C
New York	Buffalo	March 14	Bldg. 2 underground electric railways, etc	Argentine Legation, Wash., D. C.
South America	Buenos Ayres	May 1, 2 P.M.	Constructing concrete walls for ship lock	H. M Adams. Eng'r Corps, U S A

STREET IMPROVEMENTS

Hartford, Conn.—The Street Board discussed the budget for the coming year, and decided to ask the Board of Finance for $400,000. The main items of expenditure will be $50,000 for pavement on Asylum, Ford and State streets and City Hall Square; $70,120 for macadamizing; $29,500 for the resurfacing of streets; $20,200 for turnpiking and $10,000 for repairs to asphalt pavement.

Downers Grove, Ill.—The Board of Local Improvements has passed resolutions for 60,000 square yards brick pavement and 42,900 lineal feet curb and gutter.—J. S. Lozier, Village Engineer.

Galena, Ill.—Ordinances have passed Council for building sidewalks on both sides and laying curbing and gutters on Wood street from Fifth to Seventh streets.

Ft. Wayne, Ind.—Taylor avenue is to be paved in the spring and the Board of Public Works is soon to invite bids.

Salina, Kan.—Council has passed resolations to do about 50,000 square yards of paving on the following streets: Santa Fe avenue, Arch street, Seventh, Elm and Fifth streets.—P. G. Wakenhut, City Engineer.

Topeka, Kan.—Council Committee on Streets and Walks is considering sixteen petitions now in the committee's hands; thirty-eight blocks of paving are recommended.

Covington, Ky.—The Committee on Internal Improvements of both boards of the Covington Council has decided on streets to be paved with brick during the present year; thirty blocks will be laid.

New Orleans, La.—Both sides of Carrollton avenue from St. Charles avenue to the New Basin Canal, may be paved with asphalt.—William J. Hardee, City Engineer.

Annapolis, Md.—The city authorities have petitioned Legislature for authority to issue $25,000 street improvement bonds.—Address City Clerk.

Frederick, Md.—An ordinance is being prepared to provide for the issue of $100,000 street improvement bonds.—Address City Clerk.

Rockville, Md.—Delegate Andrew J. Cummings has introduced to the House of Delegates a bill providing for construction of a pike from Kensington to Bradley lane, a distance of about three miles, the measure authorizing the bonding of the County to raise funds for the purpose, the cost to be limited to $12,000.

Detroit, Mich.—The Board of Public Works will readvertise for the construction of cement walks.

Joplin, Mo.—The City Engineer is preparing an estimate of the cost of cutting down the grade of Broadway avenue from Joplin street to Terminal avenue, with about a 10-foot cut at Galena avenue; also for grading and macadamizing South street from McCoy avenue to Warden lane; Council has passed ordinances for the construction of first-class concrete sidewalks on the east side of Pennsylvania avenue from Twelfth street to Twenty-third street, and on the west side of Pennsylvania avenue from Twelfth street to Twenty-third street; for improving the roadway of E street from Main to the alley west of Jackson avenue, and the roadway of Valley street from Division street to a point 100 feet east of the roadway of Timber street.

Bids will be opened, February 25, 3 p.m., for $50,000 5 per cent. 20-year semi-annual bonds for Third street viaduct.—Julius Becker, City Treasurer.

Kansas City, Mo.—The revised plans for the viaduct on Mulberry street from Ninth to Eleventh streets, to connect with the intercity viaduct, were submitted to the Board of Public Works for approval; an ordinance authorizing the viaduct is pending before the Council Committee on Streets, Alleys and Grades, and a favorable report is looked for.—E. A. Harper, City Engineer.

St. Louis, Mo.—The Board of Public Improvements has submitted twenty-one street improvement ordinances to the Municipal Assembly. Nineteen were for brick paving, aggregating 4.41 miles and costing $240,744, and the other two were for granite paving aggregating .59 mile, to cost $46,072. The total cost for the work will be $286,816. The list follows: Brick—Thirteenth street, between Ann and Geyer avenues; Pennsylvania, between Itaska and Osceola; Vandeventer, between McRee and Park; Bertha, between Hamilton and Hodiamont; Rebecca, from Grand west for a distance of 554 feet; San Francisco, between Newstead and Taylor; Sidney, from Broadway to Gravois; Vista, between Grand and its intersection with Vandeventer and Tiffany; Gustine, between Juniata and Arsenal; Cottage, between Warne and Sarah; Texas, between Gravois and Shenandoah; St. Ferdinand, between Sarah and Whittier; Cote Brilliante, between Prairie and Sarah; Farlin, between Red Bud and Newstead; Stansbury, between Illinois and Broadway; Oregon, from Sidney south 647 feet; Cote Brilliante, between Arlington and Clara; Wells, between Hodiamont and western city limits; Carter, between Grove and Grand. Granite—Broadway, between Carrie and Morin; Broadway, between Calvary and Switzer.

Cortland, N. Y.—The Board of Public Works has directed plans to be prepared for paving certain streets with brick or asphalt.

Edinburg, N. D.—The Village Board is preparing to lay cement walks in several districts.

Ashtabula, O.—The pavement of Division street is to be undertaken in the spring; vitrified block on a concrete foundation will probably be authorized.

Cincinnati, O.—The Committee on Steam Railways will make a report regarding the advisability of allowing the Southern Railway to build a viaduct to connect its yards from Budd street to Water street; it is understood that the company wants to construct a trestle way over several of the city streets for the purpose.

The Committee on Streets and Parks reported favorably preliminary motions which were adopted as follows: For the improvement of Broadwell avenue, from Glenmore avenue to Hooker street, with macadam; also, Hooker street, from Montana avenue to Broadwell avenue, with macadam. Ordinances to proceed with improvements were passed as follows: Lyons street, from Clifton avenue to Moerlein avenue; also, Fifth avenue, from Eighth street to Glenway avenue; also, Lawrence alley, from Manitou street to Monroe street.

Dayton, O.—Bonds, $15,000, are to be issued for improving the unimproved streets of the city, which will be taken by the Board of Sinking Fund Trustees, so that work can be given without needless delay to the unemployed.

Fremont, O.—The question of paving Buckland avenue is to be taken up by the Council of this village at once.

Geneva, O.—The question of a considerable amount of paving is likely to be taken up by Council at an early meeting.

Lima, O.—Engineer Brice estimates the cost of grading and paving Elizabeth street at $35,000, using brick on a concrete base.

Lorain, O.—The ordinance bonding the city in the sum of $75,000 for paving Penfield avenue has passed the Council.

Ravenna, O.—B. F. Batchelder, City Engineer, will prepare plans for the pavement of a number of streets.

Richwood, O.—Franklin street is to be paved with vitrified brick a distance of over half a mile. Bids are soon to be invited.

Springfield, O.—The Street Committee of Council has recommended the paving of Fountain avenue. This thoroughfare, together with many other smaller streets, will be paved in the spring; the material has not been decided on; asphalt block is under consideration; the improvement covers many miles of pavement and preparation will be on a large scale.

Toledo, O.—Bonds, $140,000, have been authorized for the city's portion of street and sewer improvements contemplated for 1908; work will be started as soon after contracts are awarded as possible.—George W. Tonson, President, Board of Public Service.

Wooster, O.—Farmers living north of the city have taken up the matter of having the street paved from the north part of Beaver street to the township line; Council is to be asked to make this improvement.

Youngstown, O.—Bids will be received February 24 for the purchase of the following bonds: $430 Fairview avenue sewer bonds, $100 Perry street bonds, $1,140 Regent avenue bonds, $4,060 Truesdale avenue bonds, $1,655 Maple avenue grading bonds; interest, 5 per cent. Wm. L. Davis, City Auditor.

New Haven, Pa.—Councilman John Duggan is urging a $25,000 bond issue to pay the city's share, one-third cost, of paving a number of streets; estimates as prepared by him follow: First street, from Meason street to borough line, about 1,380 feet, 30 feet wide, 4,820 square yards paving; Second street, from borough line to Torrence avenue, 1,214 feet, 26 feet wide, 3,642 square yards; Third street, from borough line to Torrence avenue, 1,460 feet, 26 feet wide, 4,360 square yards; Fourth street, 1,460 feet, 26 feet wide, 4,360 square yards; Seventh street, 1,650 feet, 26 feet wide, 4,900 square yards; Eighth street, 1,300 feet, 26 feet wide, 3,900 square yards; Ninth street, 1,800 feet, 26 feet wide, 5,400 square yards; Hill to borough line, 1,800 feet, 36 feet wide, 7,200 square yards; Meason, from First to Ninth street, 1,460 feet, 26 feet wide, 4,380 square yards. Total, about 43,000 square yards paving, cost about $53,000; 27,000 feet curbing, $13,500; about 25,000 feet excavation, $10,000; total, $76,000.

Somerset, Pa.—The Supervisors of Somerset township have amended their petition for State aid in macadamizing the Johnstown pike, commencing at the line dividing Somerset borough from the township; the original application called for 4,500 feet, but has been increased to two miles.

Ludon, Tenn.—An election will be held to vote on the question of issue of $100,000 road bonds.—Address County Clerk.

La Crosse, Wis.—A special Committee on Street Improvements recommends the following improvements to be made during the year 1908: Vine street, from Fourth to Sixth, paved with brick, and from Sixth to West avenue with macadam; Fifth street from State street to Vine street with brick; Sixth street from Jackson to Mormon Coulee road with macadam; on the north side Charles street, from Clinton to Gillette street, with macadam.

SEWERAGE

Selina, Cal.—Plans for a complete sewer system covering the entire town have been adopted by the City Trustees. According to the plans, the sewers will be 12 miles long, of 6, 8, 10 and 12 inch pipe, 3 to 6 foot average cut, and will cost $49,579.—W. H. Shafer, City Engineer; J. L. Mitchell, City Clerk.

Trinidad, Col.—F. O. Rays, Pueblo, is preparing plans for a sewerage system for Trinidad, estimated to cost about $35,000.

Wilmington, Del.—Alexander J. Taylor is preparing plans for a new system for the disposal of the city sewage.

Washington, D. C.—The Commissioners have ordered that trunk sewer be constructed from the intersection of Loughboro road and Arizona avenue through the right-of-way recently acquired through parcel 34-35, assessed to Margaret P. Brooke, to Fortieth street, charged to appropriation for sewers; that the following service sewers be constructed: Sewer in Fortieth street northwest, between parcels 34-35, assessed to Margaret P. Brooke and Yuma street; sewer in Wisconsin avenue northwest between Yuma street and River road; sewer in Wisconsin avenue northwest between Warren street and Loughboro road; sewer in Warren street northwest between Fortieth street and Wisconsin avenue; sewer in Crescent place northwest between Sixteenth and Seventeenth streets; sewer in Seventeenth street northwest between Crescent place and Kalorama road.

Ames, Ia.—City Engineer McDonald has been directed to prepare plans for West Side sewer system.

Moberly, Mo.—Bids will probably be asked in March or April for constructing pipe sewer.—J. F. Curry, City Clerk; S. McDonald, City Engineer.

Eaton, O.—Bids will be received February 10 for the purchase of $15,000 4½ per cent. optional sewer bonds.—C. S. Ressler, Village Clerk.

Fostoria, O.—W. O. Bulger has been employed as Engineer for the construction of the Cleveland street 12-inch sewer; plans will also be drawn for a 12-inch sewer on Williston avenue.

Gallion, O.—This town is again to take up the question of a sewer system and a sewage disposal plant; plans are to be taken up with the State Board of Health.

Greenville, O.—A vote is to be taken at Pleasant Hill on a $25,000 waterworks plant and sewer system.

Lima, O.—Engineer Brice estimates the cost of extending the Infirmary sewer from the present terminus to the river channel at $9,000.

New Philadelphia, O.—R. T. Horning has been appointed to confer with the State Board of Health relative to the question of building a sewage disposal plant.

New Philadelphia, O.—The city will, in all probability, be granted the privilege of constructing the proposed sewer without the erection of a disposal plant, until so ordered by the State Board of Health; however, pending an investigation by that body for the determination of a proper outlet and one which will in no way be offensive, Council will not enact any important legislation toward the consummation of the construction of the work.

Niles, O.—Council has decided upon a site for its proposed new sewage disposal plant, and action will soon be started in Common Pleas Court to appropriate 18 acres of land belonging to the D. C. Williams estate located along the Mahoning river.

The Clerk has been instructed to advertise for bids for No. 2 sewer pipe, to be used in the new sewage disposal plant.

Norwalk, O.—Engineer E. G. Bradbury of Columbus has given a complete report of the expense of changing the plans for the sewage disposal plant.

Painesville, O.—City Engineer H. P. Cummings has been instructed to prepare preliminary plans for a storm water sewer on South State street.

Steubenville, O.—Council has arranged to go ahead with the construction of the McAllister avenue sewer.

Struthers, O.—Village Engineer Montgomery has made a report of the cost of a proposed sewer system and the subject has been referred to the Mayor and the Engineer for final action.

Wooster, O.—Preliminary drawings for sewering Pittsburg avenue have been prepared. This is an extensive improvement, and it will be undertaken early in the Spring.

Wilmington, N. C.—J. J. Fowler will receive bids March 16 for the purchase of $200,000 40-year, 4½ per cent. water and sewer bonds.

Philadelphia, Pa.—Council has passed ordinances providing about $2,000,000 for sewer construction. The principal ordinance authorized the construction of main sewers at a cost of $800,000.—George R. Stearns is Director of Public Works.

Mitchell, S. D.—George Austin has been awarded the contract by the City Council for the construction of about 4,000 feet of sewer in the south side of the city, at $3,300.

Chattanooga, Tenn.—The Sewer Committee of the City Council has approved the ordinance appropriating $30,000 for construction of the Chestnut street sewer.

Cameron, Tex.—Council has directed plans and specifications to be prepared for sewer system estimated to cost $20,000.—Address Clerk of the Board.

WATER SUPPLY

Santa Monica, Cal.—Estimates of the cost of installing a municipal water system are being secured. The service for the city will require about six miles of 14-inch pipe, with 6-inch mains throughout the entire city.

Wilmington, Del.—Plans for remodeling the old pumping station at Sixteenth and French streets are being prepared.

Florala, Fla.—Council proposes to establish water system at a cost of $20,000.—R. A. French, Mayor.

Athens, Ga.—The Committee on Water Works has been directed to install a new filter.

Lewiston, Idaho.—Council has decided to reject all bids received for the $57,300 water extension bonds.

Golconda, Ill.—The Golconda Light and Water Company has been incorporated with a capital of $12,000 to operate light and water plants.—J. O. Williamson, Incorporator.

Albion, Ind.—The pumping station of the water works has been condemned by the State Factory Inspector.

Rockport, Ind.—The Rockport Electric Light and Water Works Company has been granted a ten years' franchise and may ask for bids for the construction of a new plant.

Newton Falls, O.—The Village Council has passed a resolution declaring it necessary to issue $20,000 bonds to provide for a water works system, and set February 24 as the date for the electors to vote upon the proposition.

Grand Rapids, Mich.—The County Board is considering plans for an adequate water supply for the Kent County Home.—Address County Auditor.

Cloquet, Minn.—The matter of establishing a water system is under consideration.—Address J. H. Elmwood.

Frazee, Minn.—Council proposes to establish water supply for fire protection.

Franklin, Minn.—Council is considering the cost of building a new water tower.—E. S. Johnson, Recorder.

Pine River, Minn.—Council has directed estimates to be prepared for water system.—Address City Recorder.

St. Cloud, Minn.—Council is preparing to purchase pumping machinery for the city wells.—Address City Recorder.

Omaha, Neb.—S. L. Etnyre, City Engineer, has estimated the cost of the proposed municipal water works system at $586,902.

Orange, N. J.—An ordinance has passed Council providing for $200,000 improvements to be made to the water system.—Willet B. Gano, City Clerk.

Leonard, N. D.—The power house at the city water supply has been damaged by fire.

Hartford, N. D.—The power plant of the city water works has been destroyed by fire; $5,000 bonds will be issued for the construction and equipment of a new one.

Paterson, N. J.—A committee was appointed at the joint meeting of the Boards of Finance and Public Works to investigate and report upon the feasibility of acquiring a municipal water plant.—H. J. Harder, City Engineer.

Alliance, O.—John Dracher, Superintendent of the Water Works Department, has made some extensive recommendations for improvements at the water works plant.

Cincinnati, O.—Acting Chief Engineer Benzenberg reports to the Water Works Commissioners that the entire boiler plant at the main pumping station and all its appurtenances have required almost constant repairs; that they lack capacity and the character of stability and permanency which cannot be imparted by repair work.

Cleveland, O.—O. N. Stafford, president of the Cleveland Worsted Mills Company, states that the company may expend a considerable sum of money at their plant near Ravenna for the installation of a purifying plant for water for use in their dye works factory; the plan will include a pumping system as well.

Elyria, O.—Bonds, $146,000, are to be issued, a portion of which are to be used for water works improvements.

Lancaster, O.—The State Board of Health has recommended the construction of a wall surrounding the water reservoirs and for a number of other minor improvements at the water works plant.

Lima, O.—Engineer Brice recommends that the leak in the new reservoir could be stopped by draining it and digging a trench to bed rock at a cost of about $4,500.

Toledo, O.—Bonds, $250,000, have been authorized for filtration plant; it is the intention of the Board of Public Service to award contracts and get work under way as soon as possible, including all sections of the big conduit from the purification plant to the pumping station and connection with the pumps, the pump house and machinery at the filter, the intake and tunnel and the intake pier.—F. S. Consaul, City Engineer.

Youngstown, O.—McMasters, Green and Murray are the members of the Council Committee which will investigate the additional water supply question; they are to go over the report of the City Engineer on the Berlin reservoir question and will also look up other sources of supply.

Zanesville, O.—Council will not accept the recommendation of the Chamber of Commerce to provide funds for a test of the well system of filtration; Health Officer F. W. McCormick states that the Council Committee will inspect the filtration plants of a dozen different towns to decide on what improvements are necssary for the city.

Altus, Okla.—Bonds, $50,000, have been authorized for building water system.—Address City Engineer.

Nonanza, Ore.—The Klamath Water Users' Association may construct the Clear Lake dam during the present year.

Portland, Ore.—The Ways and Means Committee of Council has recommended the appropriation of $42,000 from the funds of the Water Department for the purchase of 600 fire hydrants to be installed this year.—Douglas W. Taylor, City Engineer.

New Cumberland, Pa.—Burgess Heffelman will call another meeting of the citizens of this place in the course of a week to receive the report of the committee appointed a short time ago to look into the cost of constructing a water plant for which $15,000 has been pledged, to furnish water to New Cumberland at a cheaper rate than the Riverton Consolidated Water Company, which holds the only franchise in town at this time, and which has increased its rates from the minimum of $10 to $17.50 per year, taking advantage of what is known as the separate spigot rate. The committee is composed of Clinton Keister, John Watts, Thomas Gray, George W. Brady, and C. M. Smith, and has retained an attorney.

Sharon, Pa.—A pumping station will be installed at a cost of $25,000 by Sharon Water Works Company.

Charleston, S. C.—The Committee on Water Supply recommends the extension of water mains in the northwestern section of the city.—Address Clerk of the Board.

Yorkville, S. C.—G. E. Shand, C. E., Columbia, will prepare the plans for the construction of a sewer system for this town.

Hartford, S. D.—An election will be held to vote on the question of issuing $5,000 bonds for rebuilding water plant.—Address City Clerk.

Dallas, Tex.—Chief Engineer Bassett of water works has submitted plans for a new pumping plant; the new structure is to be erected out of the proceeds of the bonds which are now advertised for sale, and it is estimated that when it is complete with equipment installed the cost will be $150,000.

Whitesboro, Tex.—The Attorney General has approved an issue of $7,500 additional water works bonds, interest 5 per cent.

Tacoma, Wash.—Council has awarded the contract for a 6,000,000-gallon pump for Station A to the Puget Sound Metal Co., at $7,827.—Frank L. Davis, City Engineer.

Guelph, Ont., Canada.—Bonds, $125,000, have been authorized for remodeling water system and securing a new source of water supply.—Address Clerk of the Board.

Montreal, Quebec, Can.—The Council of the Board of Trades has decided to petition the City Council to add high-pressure water service for fire protection.—Address T. J. Drummond.

LIGHTING AND ELECTRICITY

Little Rock, Ark.—The city contemplates erecting brick building and installing electric light plant with capacity of 750 arc lights for street illumination. Present plant has capacity of about 350 arc lights.—W. E. Lenon, Mayor.

Newport, Ark.—Council will receive bids for franchise to operate an electric light and power plant.

Holtville, Cal.—The Holton Power Company is perfecting arrangements for trebling the capacity of its water power plant for the production of electric energy at Holtville.

New Haven, Conn.—The United Illuminating Co. has increased its capital stock from $1,000,000 to $1,500,000; the funds derived from the sale of the new shares will be employed to carry out a programme of extensions and improvements.

Dover, Del.—It is intended to install a 90-KW. generator, to be connected, as one unit, to two 60-H.P. Harrisburg high-speed engines, direct.—T. F. Cooke, Superintendent Municipal lighting plant.

Boise, Idaho.—The Boise Gas Light Co. has decided to issue $200,000 in bonds to retire old bonds and for extension and betterment of a system.—A. Ross, President.

Blue Island, Ill.—The plant of the Blue Island Electric Light Co. is now worked to its limit; extensive improvements will be made.—P. Voochees, Chairman of Business Men's Club.

Geneva, Ill.—The People's Gas Company has petitioned for franchise to establish a gas plant.—Edmund M. Blake, Organizer.

Grant Park, Ill.—Council is contemplating the proposition to put in a new street lighting system.—Address City Clerk.

Joliet, Ill.—Edmond M. Blake is seeking to secure the privilege of forming a new gas company.

Murhpysboro, Ill.—The Murphysboro Water Works, Electric Light and Gas Company will install a 500-KW. alternating current, 2,200-volt, 2-phase direct-connected unit.—W. O. Settle, Manager.

Lafayette, Ind.—Prof. J. Walter Esterline, of Purdue University, has been engaged to prepare plans, specifications, and estimates for a municipal lighting plant; it is believed one can be built as an adjunct to the water works plant for $45,000, which will supply commercial lighting as well as the city; bids from three private companies were recently received from ten-year lighting contract and they are being held up.

Muncie, Ind.—The plant of the Muncie Gas Light and Fuel Company has been destroyed by explosion; loss, $10,000; well insured; the plant will be rebuilt at once.

New Albany, Ind.—Council has ordered a franchise prepared and sold to the highest bidder to light the streets of the city.—L. T. Mann, City Engineer.

Rockport, Ind.—The Town Council has granted a ten-year franchise to the Rockport Electric Light Co. to install a plant to light the streets.

West Point, La.—Bids will be received February 10 for the purchase of $3,200 6 per cent. electric light bonds.—Address City Clerk.

Barbourville, Ky.—The Cumberland Ice and Beveridge Co. has concluded a deal for the purchase of the Barbourville Electric Light Company and the plant will be consolidated with that of the latter concern at an early date.

Louisville, Ky.—The Kentucky Electric Co., Seventh and Ormsby streets, intends to erect a two-story dynamo building, to cost $25,000.—Donald McDonald, President; Lewis S. String, Chief Engineer.

Holyoke, Mass.—The American Writing Paper Company is interested in establishing a large power plant to furnish electric power for factory.

Marquette, Mich.—G. W. Humphrey of Chicago, a consulting electrical engineer, has just concluded an examination of Marquette's electric light and power properties and is to make a report upon which probably will be based a number of important changes in the department.

Pellston, Mich.—The Pellston Light and Power Company will let contracts in March for the following equipment: 20 miles of pole line of 25,000 voltage, to be used in connection with 20 miles of line now in operation; 200-KW. alternating current generator, direct connected to a water wheel; cement dam; galvanized iron sheet piling; the plant is situated on the Escanaba River; there is a fall of 20 feet in 20 rods.—E. E. Hatch, Designing Engineer.

Brainerd, Minn.—Council will install a new and larger dynamo at the electric light plant.

Nevada, Mo.—The Missouri Water, Light and Traction Company will shortly let the contracts for installing the following equipment: Two 225-h.p. water tube boilers, 600-h.p. exhaust steam heater, 600-h.p. live

steam water purifier and the necessary piping.—Hiram Phillips, Receiver.

Central City, Neb.—H. Forest of Omaha has secured a franchise for a lighting plant.

Sidney, Neb.—The Sidney Electric Service Company has decided to install another unit of 75-KW., 200 volt direct, connected to a high-speed engine; the company wants prices and information on different types of engines; a day service will be established.

Reno, Nev.—Articles of incorporation of the new North Yuba Electric Light and Power Company were filed with the County Clerk in Reno, Nev.; the incorporators are Samuel B. Crane, Wm. B. Barstow, and Earl Talbot; the company intends to construct and operate a power plant near the waters of the North Yuba River for the purpose of supplying electric light and power to different cities and towns in Nevada and California; the capital stock of the company is placed at $1,000,000.

Fort Covington, N. Y.—The Fort Covington Light, Heat and Power Company proposes to build a dam to secure electric power.—W. S. H. Keefe, Secretary.

Waterloo, N. Y.—The Village Board is considering the question of extending and improving the street lighting system and substituting an all-night service in place of the present service, which extends only till midnight on a moonlight schedule; the Geneva-Seneca Electric Co. has submitted a proposition to the board as follows: The company offers to furnish 26 enclosed arc lamps for $70 each per year, and 117 incandescent lamps of 30 c. p. at $18 a lamp per year, making the cost of the street lighting $4,066 a year, as against the present cost of $3,512. The company agrees to furnish one arc lamp and 30 incandescent lamps free of charge. All the lamps, apparatus, and most of the wiring will be new. The contract is to be for a term of five years and provides for an all-night and every-night service.—F. C. Blintyon, New York City, manager; J. E. Sliney, Geneva, Chief Engineer.

Long Island, N. C.—The Long Island Cotton Mills Company has directed plans to be prepared for the construction of a hydro-electric plant at Buffalo shoals; it is proposed to operate the plant by electricity; the cost of the plant is estimated at $30,000.—Osborne Brown, President.

Salisbury, N. C.—The Salisbury and Spencer Railway Company is planning to construct a sub-station for which contracts will be placed during the next two months; three 1,000-K.W. transformers will be installed.—A. W. Frund, Salisbury, General Manager.

Valley City, N. D.—George F. Carpenter has petitioned Council for a franchise to install a gas plant.

Columbus, O.—The directors of the Devonshire Brick and Ceramic Company have elected W. A. Shoemaker Secretary and General Manager, and F. D. Dildine of this city Chairman of the Board of Directors; the company has voted to construct an electric lighting plant at Roseville costing $60,000; an ordinance is now pending in the town of Roseville to co-operate with the company in this enterprise.

Girard, O.—The Youngstown Consolidated Gas and Electric Company is preparing to erect a big transformer at Girard.

Massillon, O.—J. C. Haring asks bids for the construction of a $50,000 hospital; a boiler house and lighting plant will be erected in connection.

Vienna, O.—The Central Finance and Contract Company proposes to lay mains for lighting Vienna and Plattsburg with natural gas; the Council of Plattsburg signed the petition and has agreed to use natural gas for lighting streets of the village.

West Milton, O.—It is proposed to erect a hydro-electric plant of about 200 HP. in the summer. A dam is to be built 400 feet long, giving a head of from 14 to 16 feet. L. A. Pearson is interested.

Youngstown, O.—Before the city takes action on the construction of a municipal electric lighting plant, the Consolidated Gas and Electric Company wants an opportunity of making a proposition to the city on the matter of street lighting.

Harwood Mines, Pa.—The Harwood Electric Power Co. is preparing to install electrical machinery.—John F. Wise, Jr., Secretary.

Pittsburg, Pa.—The contract for lighting the city with arc lamps has been awarded to the Allegheny County Light Company. The contract calls for $90 a lamp per year where underground circuits are used and $72 a lamp with overhead wires. R. L. Orr is General Superintendent, Pittsburg.

George W. Guthrie, Mayor of Pittsburg, has announced that the plans will be changed for the proposed power plant at the city poor farm at Marshalsea and the contract readvertised.

West Newton, Pa.—The West Newton Light, Heat and Power Company has been incorporated with a capital of $25,000 to furnish light, heat and power within the borough.—Manning Stries, Manager.

Miller, S. D.—The Miller Electric Light Company contemplates making a number of additions and improvements to its plant; plans include the installation of new dynamo and engine.—I. C. Robinson, Manager.

Sweetwater, Tenn.—The Telephone and Improvement Company propose to purchase a generator and other electric machinery.

Orange, Tex.—Council has granted franchise to W. T. Angel to establish a gas lighting plant.

Wheeling, W. Va.—The Council of the Village of Bridgeport has appointed a committee to see what can be done towards erecting its own electric lighting plant.

Cashton, Wis.—The citizens will vote on the question of issuing $15,000 bonds for establishing lighting plant; if the city votes to bond for the amount the Cashton Milling Company building will be bought and machinery installed for furnishing light for the city.

Colby, Wis.—The electric light power house was burned, with a loss of $6,000 to $8,000; it may be rebuilt.

Milwaukee, Wis.—Plans are being prepared for a power house to be erected by the Continental Realty Co., near the Commerce street station of the Milwaukee Electric road.

Monroe, Wis.—The special committee appointed by Council recommends that the city do its own street lighting, unless better terms of a new contract can be made with the electric company.

Wausau, Wis.—Negotiations are under way for the purchase of the Wausau Electric Company's plant by the Wausau Street Railway Company, one of the advantages the people of this city look for is a reduction in the cost of electricity; the plant of the Wausau Electric Company, together with its water power holdings is one of the best in Wisconsin; the street railway company is also negotiating for the purchase of the Joseph Desert water power at Mosinee.

Woodstock, Ont.—J. G. Archibald, Superintendent Water and Light Committee, states that the city intends to operate its lighting plant by power from Niagara, replacing steam power now used; the city will purchase new pumps and will extend power lines; estimated cost, $27,000.

Montreal, Que., Can.—One of the big gasometers at the East End station of the Montreal Light, Heat and Power Company, on Harbor street, containing 500,000 cubic feet of gas, exploded; loss, $30,000.

Regina, Sask., Can.—The managers of the municipal lighting plant contemplate installing an additional generator during the year; $425,000 in bonds have been voted for electric light, sewers, and water system.

Saskatoon, Sask., Can.—The citizens are considering the question of installing an additional engine and generator of 100-KW. in the municipal lighting plant.

FIRE EQUIPMENT

Benton, Ark.—A disastrous fire occurred in this place; the town is without fire protection; the establishment of a department is being considered.—Address City Clerk.

Hartford, Conn.—The Board of Fire Commissioners has petitioned for an appropriation of $182,000; the Fire Chief recommends the purchase of 3,000 feet of hose and a combination hose wagon.—Address Chief Krug.

New Haven, Conn.—The Board of Fire Commissioners has petitioned for a $10,000 addition to fire house No. 1 for 2,000 feet of hose and for additional fire alarm boxes.

La Porte, Ind.—The Fire Chief has recommended the building of a new fire station and the purchase of fire apparatus.

Muncie, Ind.—John E. Casey, Fire Chief, recommends the purchase of an additional fire steamer.

Joplin, Mo.—Bonds will be voted on at an election to be held shortly for the improvement of the Fire Department; a special committee of Council will decide upon the exact improvements to be made.

Webb City, Mo.—The Fire Department has petitioned for an appropriation of $5,000 for the purchase of a chemical engine and hose cart.

New York, N. Y.—The Board of Aldermen has appropriated $50,000 for the purchase of fire hose.—Address Fire Commissioner Lantry.

Enderlin, N. D.—Council is preparing to purchase fire apparatus.

Fessenden, N. D.—A fire company is being organized. Address City Attorney Lane.

Spirit Wood, N. D.—The matter of purchasing fire apparatus is being considered by the Council.—Address City Clerk.

Houston Heights, Tex.—A fire company has been organized.—D. C. Gunn, Chief.

Marshfield, Wis.—Council is arranging to purchase two chemical extinguishers.

Postburg, Wis.—Council proposes to purchase fire apparatus.—Address City Clerk.

Saskatoon, Sask., Can.—Tenders are to be called for a new ward fire hall, to cost $12,000.—W. W. La Chance, Architect.

PUBLIC BUILDINGS

Hollister, Cal.—The School Board, it is reported, has decided to erect a school costing about $30,000.

Bridgeport, Conn.—The Board of Education is said to be considering the erection of a new high school.

Rockville, Conn.—W. H. Preston has given $50,000 toward the establishment of a city hospital.

Chicago, Ill.—The Board of Education will readvertise for sealed proposals on steam heating for the three-story addition to the Andrew Jackson School, on Damon street, between Aberdeen and Sholto streets; cost, $200,000.

Crown Point, Ind.—Beers & Beers of Chicago, Ill., have submitted plans for remodeling the county jail at a cost of $60,000.

Frontenac, Kan.—An election will be held February 18, to vote on the question of issuing $10,000 school bonds.—Address City Clerk.

Des Moines, Ia.—Bids will be received about March 15 by the Board of Public Works for the erection of the proposed city hall, to cost about $250,000.—Proudfoot & Bird, Crocker Building, Architects; W. W. Wise, Chairman.

Fall River, Mass.—Louis G. Destremps & Son, No. 56 Main street, Fall River, are preparing plans for the proposed Fall River district courthouse; it will be of brick with granite trimmings, two stories high, and will cost $150,000.

Northampton, Mass.—The erection of a new City Hall to cost $200,000 is being agitated.

Springfield, Mass.—It is probable that the sum of $5,000 will be authorized with which to carry out an architects' competition for the proposed new city buildings.

Ridge Lawn, Mont.—Bids will be received February 20 for the purchase of $3,000 6 per cent. School District No. 12 bonds.—Guy L. Redd, Clerk of the School Board.

Superior, Neb.—The plans of A. W. Grant of Beatrice are reported to have been accepted for a high school, to cost about $25,000.

New York, N. Y.—The Mayor has approved the ordinance appropriating $50,000 for the erection of additional stories to the City Court Building for the use of the City Court.

Oswego, N. Y.—A site for the new Normal School will soon be selected; this will be followed by preparation of plans and letting of contract.

Phillipsburg, N. J.—The Board of Education, it is stated, has voted to erect an annex to the High School, costing about $47,000.

Akron, O.—Steps are being taken looking toward the erection of a new central police station for the entire force; building to cost $50,000.

Cincinnati, O.—Architect Hake will immediately begin work on the plans for a $30,000 police station to be erected at the corner of Considine and Warsaw avenues.

Cleveland, O.—Hubbell & Benes, Citizens' Building, are preparing preliminary plans for an art museum in Wade Park for the Cleveland Museum of Art; cost, from $500,000 to $1,000,000.—L. E. Holden, Chairman.

McKeesport, Pa.—The Board of Education will receive applications of any architect desiring to submit plans and specifications on the proposed new school building to be erected on the site recently purchased at the corner of River and Butler streets.—W. T. Norton, Secretary.

Pittsburg, Pa.—The County Commissioners have sold $400,000 4 per cent. thirty-year Memorial Hall bonds to the Dollar Savings Bank at par and accrued interest.—Chas. B. Price, County Commissioner.

Arlington Heights, Tex.—The Attorney General has approved of an issue of $11,000 5 per cent., forty-year school bonds, with an option of ten years.—Address Clerk of the School Board.

Glenwood, Tex.—The Attorney General has approved an issue of $14,000 5 per cent. forty-year school bonds.—Address Clerk of the Board.

Knox City, Tex.—The Attorney General has approved of an issue of $16,000 5 per cent. forty-year school bonds; the bonds will be optional after ten years.

Orange, Tex.—Council has decided to call an election to vote on the question of issuing $15,000 4 per cent. school bonds.—Address Mayor Bancroft.

San Angelo, Tex.—Bonds, $24,000, have been voted for school purposes.—Address Clerk of the Board.

Milwaukee, Wis.—Plans have been completed by Van Ryn & De Gelleke, No. 211 Grand avenue, for a three-story normal school, to be built here at a cost of $200,000.

Seattle, Wash.—School Architect James Stephens has completed plans for the building that is to be erected at Columbia Heights; the structure will contain twelve rooms, and is estimated to cost $30,000.

STREET RAILWAYS

San Diego, Cal.—Council has granted six months' extension to the Keller-Kerckhoff Railroad Company for the completion of $50,000 worth of work in actual road building, exclusive of surveys, which amount was to have been done by now; delays in obtaining franchises was responsible in part for the failure of the company to fulfill its agreement; about $40,000 has already been spent, and company promises early completion of road between this city and Del Mar.

Denver, Col.—The Denver and Intermountain Railway is to be extended from Golden to Morrison.—Address Secretary.

Trinidad, Col.—The Stone Wall Valley Electric Railway Co. has issued $100,000 bonds for building extension.

Washington, D. C.—The Washington Railway and Electric Company proposes to make improvements and extensions.—Allan McDermott, President.

Macon, Ga.—The Macon Railway and Light Company contemplates an extension from Bellevue to the Idle Hour Stock Farm, one mile.

Belleview, Ill.—The Red Bud and Belleville Interurban Railway Company has filed articles of incorporation; it proposes to build an electric road from Smithton in St. Clair County, through Monroe County, to Red Bud in Randolph County.—Incorporators, C. G. Smith, Conrad Becker Kelo, and others.

Mayfield, Ky.—Final surveys have been started for the Paducah Southern Electric Company; the company, through its attorney, M. J. Webb, has filed a mortgage in the County Clerk's office to the Windsor Trust Co. of New York for $2,000,000.

Woodstock, Ill.—Officers of the proposed Woodstock, Marengo, Genoa and Sycamore Electric Railway Company are busy securing the right of way for this line, which will probably be built the coming summer; this portion of the work has been completed between Genoa and Marengo.—E. B. Harang, Manager.

Bloomington, Ind.—Council has granted a franchise to the Grand Central Traction Company, which proposes to build from Indianapolis to Evansville, Ind. As previously noted, surveys have been finished by Will Duncan, Chief Engineer. The estimated length of the proposed railway is 250 miles. It will be built from Indianapolis to Evansville with a branch from Bloomington to Terre Haute. The company will soon be in the market for all kinds of materials necessary for building an electric railway. The officers are: W. D. Whitney, President; O. W. Whitney, Vice-President; O. W. Blickenstaff, General Manager; Will Duncan, Chief Engineer; D. H. Morgan, Secretary; N. P. Carter, Treasurer; general offices are 618 Terminal Building, Indianapolis.

Bloomfield, N. J.—Public Service Corporation, 763 Broad street, Newark, N. J., will soon apply to the Town Council for permission to double-track its line from Glenwood avenue, Orange, to Bloomfield Center. The Council will probably grant this permission, provided the corporation pays part of the cost of depressing the street under the Lackawanna Railroad when that corporation begins to elevate its tracks in the spring. The Public Service Corporation is also considering extending the Orange and Passaic Valley Line from its present terminus at Bay avenue to Brookdale and eventually to Paterson.

Calumet, Mich.—The Calumet and Lac La Belle Power and Traction Company is to be patterned after the Pittsburg and Butler Traction, Light and Power Company; it is the intention of the local officers to install one of the most modern and up-to-date systems in the country—E. K. Stewart, Engineer of the company.

Mineola, L. I., N. Y.—The Nassau County Board of Supervisors has granted a franchise to the New York and North Shore Traction Company to extend the trolley line from Foley's Corners, Roslyn, to the city line at Little Neck; the company is controlled by the Long Island Railway.

Perry, N. Y.—Representatives of the Rochester, Caledonia and Scottsville trolley road will appear before the Board of Village Trustees and the Town Board of Perry, February 7, and make formal application for the granting of a franchise to construct a road through the village and town.

Ashtabula, O.—The Ashtabula Electric Street Railroad Company has been organized by C. G. Nelson, J. E. Anderson, J. V. Paulson, and others of Ashtabula, to build an electric line about five miles long from Ashtabula to Ashtabula Harbor. A small powerhouse may be built.

Martin's Ferry, O.—The stockholders of the Dillonville and Ohio River Traction Company have decided to extend the line.—W. B. Francis, Secretary.

Portland, Ore.—The United Railways Company has applied to the County Commissioners for a franchise from the city limits of Portland south on the macadam road to the Clackamas County line. It is proposed to extend the line to Hillsboro and Forest Grove.—J. W. Gardiner, Vice-President.

Johnstown, Pa.—The Johnstown Passenger Railway Company plans improvements for the coming year to cost $100,000, which was voted at a recent meeting of the directors; $62,000 will be expended on a new system in the Morrellville district.

Chattanooga, Tenn.—The Tennessee-Georgia Interurban Railway Company is planning to extend its lines.

Dallas, Tex.—The Texas Traction Company, which is now completing its line from Sherman to Dallas, Tex., has applied for a 20-year franchise for an entrance into Dallas. With the application the company filed an agreement previously made with the Dallas Consolidated Electric Street Railroad and the Metropolitan Street Railway Companies for the use of their tracks.

Christiansburg, Va.—The Vaughan Construction Company, which holds a charter for an electric railway between Christiansburg and Cambria, plans to begin work on the line in the spring; it will be about two and a quarter miles long.

Clarkston, Wash.—Frank McKean is Engineer for proposed electric railway to connect Anatone, Asotin, Vineland, Clarkston and Lewiston; it will be about forty miles long.

Colville, Wash.—A. E. Baldwin and C. J. Webb have petitioned the County Auditor for franchise for electric line forty-five miles in length.

Kenora, Ont., Can.—The ratepayers have voted in favor of building a municipal street railway system.—D. H. Currie, City Clerk.

BRIDGES

Holbrook, Ariz.—The County of Navajo will build a bridge over the Little Colorado River, near Woodruff, Butte.—Address Navajo County Auditor.

Macon, Ga.—The County Board has decided to give steel bridges a trial in the county, and whenever new bridges are found to be needed those of metal construction will be used.—Address County Auditor.

Bloomington, Ill.—City Engineer Fauntz is at work on the design for a bridge to be built over Sugar Creek on North Linden street, north of Empire street; the bridge will be a 361-foot span and will be a very pretty structure if the graceful lines of the design are to be followed; it will be of concrete and iron.—Address City Clerk.

Chicago, Ill.—The plans for a new structure spanning the Calumet at Ninety-second street are now complete; Commissioner J. J. Hanberg says work will be begun in the spring surely; traffic will not be interfered with at any time during construction; the present structure will be moved north just far enough to admit of the building of the new bridge.

Rockford, Ill.—Council has decided to advertise for bids for concrete abutments for the Main street bridge, to be built strong enough so that they will hold up a steel structure to be erected there in the not distant future.—Address City Clerk.

Indianapolis, Ind.—The Marion County Council has authorized an issuance of $600,000 county bonds; $200,000 are for refunding of Court House bonds due June 1, 1908, and the other $400,000 are bridge bonds.—Address County Auditor.

Alpena, Mich.—The city will build a new cement bridge at Section 16, near the Morse farm; the bridge will cost about $2,000 from estimates furnished by the City Engineer; the Supervisors have appropriated $1,200 to assist the city.

Iron Mountain, Mich.—The Bridge Commissioners of Dickinson and the Florence County Board of Supervisors will report in favor of the building of a new bridge at Twin Falls; the report will also recommend building the new bridge at a point about two hundred feet further up the river; it is estimated that a new bridge will not cost much more than the repairs of the old one; the work must be done at an early date as the old bridge is hardly safe for heavy traffic.

Vicksburg, Miss.—The Warren County Board will receive bids at any time for the purchase of $11,000 5 per cent. county bridge bonds.—J. D. Laughlin, Clerk.

Oswego, N. Y.—The New York Central Railroad will rebuild bridge across the Oswego River.—G. W. Kittridge, Chief Engineer, New York City.

Cleveland, O.—Plans are being perfected for the construction of a new viaduct across Rocky River at High Bridge Park; County Surveyor Lea has been working on the details for many weeks, and expects to have the plans and specifications completed in time to start building operations some time this summer; the new bridge will cost about $260,000, which will be raised by taxation.

Marysville, O.—The County Commissioners are arranging to sell $70,000 worth of bonds on February 8; $40,000 will be for bridge purposes and bear interest at 4½ per cent. and mature in twenty years; the other issue will be for $30,000 worth of ditch construction bonds, bearing interest at 5 per cent. and maturing in ten years.

Scranton, Pa.—The City Engineer has been directed to prepare plans for a foot bridge at Seventh avenue, crossing the Bloomsburg division of the Lackawanna Railroad.

Graham, Tex.—Bids will be received at any time for the purchase of $40,000 4 per cent. county bridge bonds.—Geo. H. McLaren, County Auditor.

Lockhart, Tex.—The Attorney General has approved an issue of $16,000 Calwell County bridge bonds.—Address County Auditor.

Salem, W. Va.—The County Court has been petitioned for bridge across Patterson Forks, south of city.—Address City Clerk.

Janesville, Wis.—An ordinance is before Council directing the Chicago and Northwestern Railway Company to replace the wagon bridge on Center avenue track over said bridge to be at least 21 feet wide, with good, heavy concrete or stone abutments, with a steel or stone support under the centre of said bridge.

Walkerville, Ont., Can.—Plans for the construction of a steel bridge over the Grand Trunk Railway tracks on Sandwich street have been completed and approved by the Grand Trunk and the Detroit United Railway Companies and the engineer of the Dominion Railway Board.—T. T. Irving, Durand, Mich., Resident Engineer, Grand Trunk Railway System.

MISCELLANEOUS

Perth Amboy, N. J.—General Committee on Streets and Sewers has been authorized to purchase a dump wagon for $150.—City Clerk La Roe.

Auburn, N. Y.—It is estimated that it will cost the city about $8,900 to strip the new municipal quarry to secure sufficient stone for ready use this year and remove the buildings from the old quarry.—W. Thomas Wooley, City Engineer.

Bellaire, O.—The Council Committee has been visiting a number of surrounding towns on a trip of inspection of garbage plants, with a view of establishing one in Bellaire; City Solicitor Timberly is at the head of the delegation.

Columbus, O.—The Board of Public Service has prepared a new set of specifications for the new garbage disposal plant; the bids were scheduled to be opened one week ago, but, owing to the specifications being too rigid, there were none received; the new specifications have been slightly modified.

Lorain, O.—An expenditure of $8,000 for dredging in Lorain harbor has been recommended by the War Department; $15,000 has already been appropriated.

Painesville, O.—H. P. Cummings, City Engineer, has recommended the employment of a consulting engineer to approve any plans he may have for a concrete wall 500 feet long and 10 feet thick; the estimated cost of which is $20,000; this improvement is to be made on the banks of the river.

Toledo, O.—The Finance Committee has authorized an issue of $390,000 worth of bonds to be used for improvement purposes.—Address City Clerk.

Zanesville, O.—The Board of Public Service has finally decided to advertise for bids for the removal of all the garbage in the city and contract will be awarded for one year; since the contract expired January 1 nobody has been gathering the garbage in the city and the crematory plant has been lying idle. This will be put in operation as soon as the contract is let; the board figures on letting a contract this year similar to that in effect before the operation of the garbage crematory. The contract calls for the removal of all garbage, and the person so contracting has the right to use whatever portion of it he may desire for feeding hogs. The remainder will be consumed in the crematory.

Milwaukee, Wis.—The bonds which Council has expressed its determination to issue this year are $250,000 for the Twenty-seventh street viaduct; $75,000 for the Highland boulevard viaduct; $200,000 for East Water street bridge; $200,000 for a garbage plant; $200,000 for sewers; $200,000 for street improvements; $130,000 for docking and dredging, and $30,000 to pay for park lands.—Address City Comptroller.

Racine, Wis.—Council has adopted a resolution providing for the purchase of two dump wagons to be used by the Board of Public Works on the North Side, at an expenditure not to exceed $250.

A resolution appropriating $300 for the erection of a greenhouse for the Park Board has been adopted by Council.

BIDS RECEIVED

Hartford, Conn.—The Board of Contract and Supply has awarded to A. B. Griswold, No. 46 Prospect street, New Britain, Conn., the contract for the construction of Section "B" of the Homestead avenue sewer at $42,075.

Prescott, Ariz.—The American Light and Water Company has been awarded the contract for the construction of about twenty-four miles of pipe from 4 to 16 inches in diameter, at $251,940.—A. B. Mader is City Surveyor.

Washington, D. C.—Ten proposals were opened by the Commissioners for the construction of the addition to the Eastern Market, for which Congress appropriated $35,000, the lowest being that of Milton C. Davis of Baltimore, $23,298, and, after consideration, the Commissioners awarded the contract to Mr. Davis; other bidders were: Burgess & Parsons, $26,165; S. J. Brinkley, $26,200; Boyer & Smith, $28,642; Penn Bridge Company, $29,939; J. M. Dunn, $24,890· William E. Mooney, $24,987; Thomas H. Melton, $25,330; Benjamin B. Knell, $25,689, and Pavarini & Wyne, $25,900.

South Bend, Ind.—The Board of Public Works has awarded contracts for brass supplies as follows: 700 ⅝-inch corporation cocks, H. Mueller Manufacturing company, Decatur, Ill., 52¾ cents each; 700 ⅝-inch inverted key and curb cocks, A. P. Smith Manufacturing Company, Newark, N. J., 74 cents each.

Downer's Grove, Ill.—A. C. Schreiter & Co. have been awarded contract for constructing sewers at $7,993.95, as follows: 1,220 feet 15-inch sewers, 79 cents; 1,615 feet 12-inch sewers, 61 cents; 9,070 feet 10-inch, 50 cents; clay excavation, trench 5¼ feet deep, 98 inlets, $11 each; 24 manholes, 5 feet deep, $18 each; adjustable curb and gutter inlet, $11; wages of common labor, $2 per day; other bids were: Robert Nelson, $9,385.10; Michael Doran, $7,890; M. C. Connor & Co., $8,415.35; Federal Improvement Company, $7,904.40; C. H. Murphy, $8,429.60; Frank Kamanski, $7,958.35; Michael Falletts, $8,422.38; P. R. Fletcher, $7,593.80.

A. C. Schreiter & Co. also have contract for $2,775 square yards of 3-inch granite on 9-inch limestone foundation at $1.25; 1,273 cubic yards clay excavation at 35 cents; also for setting 475 linear feet new curb and gutter at 65 cents.

M. C. Connor has contract for constructing 51,933 square feet 1 2-3 inch cement sidewalks on 4-inch 1:3:4 concrete, at 13.9 cents; total, $7,241.41; Culp Paving Company bid $8,642.18, and Federal Improvement Company, $7,782.61.—J. S. Lozier, Village Engineer.

Peoria, Ill.—The contract for ditching the Parkland district has been let to R. H. McWilliams, of Mattoon, whose bid was 9.98 cents per cubic yard; the bid of Hack & Son, who are doing the La Marsh work, was just a part of a cent higher; the territory embraces about 1,200 acres and the contract will amount to $15,000; a ditch will be constructed from a point north of Parkland and will empty into the Mackinaw between the farm of J. J. Van Deusen and the Breedlove farm, now owned by Otto Koch.—R. P. Van Deusen, Engineer.

Lebanon, Ind.—John Adams has been awarded contract for 10,800 square yards metropolitan brick paving on 6-inch 1:10 concrete and 2-inch sand cushion at $1.59, including 4,500 yards gravel and clay excavation; also resetting 3,370 linear feet old curbing set in gravel at 6 cents, 3,112 feet new straight concrete curb at 25 cents, and 620 feet marginal concrete at 15 cents; also 22,453 square feet 4-inch cement sidewalk, 8-inch cinder and gravel foundation, at 9.49 cents; total, $21,315.80; Geo. T. Miller bid $21,509 and Sheehan & McCarthy, $21,700.

Geo. T. Miller has been awarded contract for 5,577 square yards Brazil brick paving on 6-inch concrete and 6-inch sand cushion at $1.62, including 1,400 yards excavation, setting 2,300 linear feet straight cement curb at 38 cents and marginal curb at 20 cents, and 16,700 square feet 4-inch cement sidewalks on 8-inch cinder and gravel foundation at 11 cents; total, $10,824; John Adams bid $10,963.—Samuel W. Coulson, City Engineer.

Richmond, Ind.—Philip Hipskind & Sons of Wabash have been awarded contract to construct 20,907 feet 12 to 54 inch pipe, including 4,700 cubic yards rock and 12,625 yards earth excavation, 2,660 cubic yards extra filling, and 1,700 feet grubbing hedge at $44,400; also for sanitary sewer, filter bed and septic tank at $9,600, including 100 cubic yards rock and 900 cubic yards earth excavation, and 2,300 feet 15-inch pipe; 3,000 yards grading; 2,400 feet gravel; 2,400 feet 4-inch tile; 150 yards cement; 4,500 lbs. ¾-inch twisted steel bars; 60 yards gravel foundation, etc.

Trippeer & Sons of Peru have been awarded contract for 2,725 linear feet combined curb and gutter, 1:2:5 concrete; 1:2 top, and 16,632 square feet 1:2:5 concrete and 1:2 top, 6 inches, on 8-inch gravel foundation, at $13,360.—Fred R. Charles, City Engineer.

Boston, Mass.—The following bids were received January 27 by Trustees of Boston City Hospital for erecting a day camp building on hospital grounds at Mattapan: B. F. Carroll, $8,700; J. Nicholson & Son, $7,696; A. Varnerin, Boston, $6,983; Martin Flynn, Brookline, $6,500.

Jones & Meehan, Boston, Mass., were low bidders for repairing asphalt paving not covered by guarantee at the direction of the Street Department; the Boston Asphalt Company, Warren Bros. Co., and Barbour Asphalt Paving Company submitted bids.

Bids were received at Boston City Hospital January 27 for heating apparatus for measles ward, as follows: Walworth Construction and Supply Company, $5,780; James P. Dwyer, $5,780; W. B. Ross, $5,697; Ingalls & Kendricken, $5,668; Pierce & Cox, $5,649; Lynch & Woodward, $5,456; Huey Bros., Boston, Mass., $5,327; J. J. Hurley & Co., Boston, Mass., $5,200.

Gloucester, Mass.—The following bids for the proposed new fire pump were received by the Committee on Fire Department: American La France Company, capacity 1,100 to 1,200 gallons a minute, $1,950; same company, capacity 1,000 gallons a minute, $1,500; International Power Company, capacity 1,000 gallons, $2,199; the contract was awarded the International Power Company.

The contract for removing ashes from the eleven public school buildings was awarded by the Committee on Public Property to Frank Stanwood at $298, the other bids being as follows: Roderick Anderton, $550; Albert A. Holland, $437.50; William Reed, $340; James C. Bell, $323.49; James De Winter, $315; William Center, $300; Arthur Wanhoff, $184.

Marion, Mass.—The Commissioners received the following bids for the proposed water works on which U. S. Cast Iron Pipe and Foundry Company was awarded contract for cast iron pipe and the Builders' Iron Foundry Company, Providence, R. I., for special castings:

Cast Iron Water Pipe: Lynchburg Foundry Company, Lynchburg, Va., $20,020.61; U. S. Cast Iron Pipe and Foundry Company, No. 71 Broadway, New York City, $20,785.56; Fred. A. Houdlette, No. 93 Broad street, Boston, Mass., $21,387.47; Warren Foundry and Machine Company, No. 170 Broadway, New York City, $21,387.47; Charles Millar Son & Co., Utica, N. Y., $21,485.23; Donaldson Iron Company, Emaus, Lehigh Company, Pa., $22,024.54; John Fox & Co., No. 253 Broadway, New York City, $22,111.12; R. D. Wood & Co., No. 400 Chestnut street, Philadelphia, Pa., $22,691.87; American Cast Iron Pipe Company, Birmingham, Ala., $23,110.15; Central Foundry Company, No. 37 Wall street, New York City, special joint; M. J. Drummond.

Special Castings—Builders Iron Foundry Company, Providence, R. I., $710; Charles Millar & Son Company, Utica, N. Y., $825; American Cast Iron Pipe Company, Birmingham, Ala., $50 per ton; Lynchburg Foundry Company, Lynchburg, Va., $51; Fred. A. Houdlette & Son, No. 93 Broad street, Boston, Mass., $52.50; Donaldson Iron Company, Emaus, Lehigh & Co., Pa., $55; John Fox & Co., 253 Broadway, New York City, $57.50.

Valves with Boxes and Hydrants—Kennedy Valve Manufacturing Company, No. 57 Beekman street, New York City valves with boxes $1,371.50, hydrants $1,215, total, $2,382.25; the Fairbanks Company, No. 42 Pearl street, Boston, Mass., valves with boxes $1,235, hydrants $1,188, total $2,423; Rensselaer Manufacturing Company, Troy, N. Y. (awarded), valves with boxes $1,233; hydrants $1,242, total $2,475; Chapman Valve Manufacturing Company, Indian Orchard, Mass., valves with boxes $1,411.96, hydrants $1,080; total $2,491.96; Coffin Valve Company, Dorchester, Mass., valves with boxes $1,315, hydrants $1,215, total $2,530; Eddy Valve Company, Waterford, N. Y., valves with boxes $1,371.50, hydrants $1,215, total, $2,586.50; Ludlow Valve Manufacturing Company, Troy, N. Y., valves with boxes $1,385.75, hydrants $1,260.90, total, $2,646.65; Darling Pump Manufacturing Company, Williamsport, Pa., valves with boxes $1,384.80; hydrants $1,350, total $2,734.80.

Worcester, Mass.—The Central Supply Company, Worcester, has been awarded the contract by the Water Department for 10,000 feet of 1¼-inch and 20,000 feet of 1-inch wrought steel pipe, at $5.95 per 100 feet, for 1¼-inch pipe, and $4.25 on 1-inch pipe.

Grand Rapids, Mich.—Abstract of bids for furnishing stone for pier filling and riprap at various harbors on eastern shore Lake Michigan in Michigan, received and opened January 15:

Latham & Smith Towing and Wrecking Company, Sturgeon Bay, Wis.—At Holland harbor, Mich., 100-lb. stone, 172 cords, $7.97 per cord, total $1,370.84. At Portage, Lake harbor, Mich., 520 lb. stone, 60 cords, $8.97 per cord; 100 lb. stone, 495 cords, $7.97 per cord; total, $4,483.35. At Frankfort harbor, Mich., 500 lb. stone, 35 cords, $8.97 per cord; 100 lb. stone, 195 cords, $7.97 per cord; total, $1,868.10. At Charlevoix harbor, Mich., 500 lb. stone, 55 cords, $10.23 per cord; 100 lb. stone, 182 cords, $9.23 per cord; total, $2,242.51.

The Green Stone and Quarrying Company, Sawyer, Wis.—At Grand Haven harbor, 500 lb. stone, 725 cords, $14 per cord; 100 lb. stone, 335 cords, $13 per cord; total, $14,505.

Great Lakes Dredge and Dock Company, Chicago, Ill.—At St. Joseph harbor, 100 lb. stone, 312 cords, $13 per cord, total, $4,056. At South Haven harbor, 1,000 lb. stone, 90 cords, $16.75 per cord, 500 lb. stone, 63 cords, $16.25 per cord; 100 lb. stone, 111 cords, $15.50 per cord; total, $4,251.75. At Saugatuck harbor, 500 lb. stone, 400 cords, $15 per cord, total, $6,000. At White Lake harbor, 500 lb. stone, 87 cords, $17.75 per cord; 100 lb. stone, 157 cords, $17 per cord; total, $4,213.25. At Pentwater harbor, 500 lb. stone, 72 cords, $16.75 per cord; 100 lb. stone, 391 cords, $16 per cord; total, $7,462. At Ludington harbor, 100 lb. stone, 100 cords, $16 per cord; total, $1,600. At Manistee harbor, 100 lb. stone, 77 cords, $20 per cord; total, $1,540.

Madison, Minn.—The contract for the Madison High School has been let to the Weinberg Construction Company of Appleton, Wis., for $43,505, complete in every respect, including cupboards, blackboards, etc. Heating and plumbing contract was awarded to Victor Beaudry, of Madison, Minn., for $10 299 complete. The Paul Vacuum and Powers regulator system adopted; there were twelve bids in all on the general contract and thirteen bids on the heating.—P. G. Jacobian, President Board of Education.

St. Paul, Minn.—The contract for the construction of the Warrendale sewer system, including five miles of sewer near Lake Como, was awarded by the Board of Public Works to the General Contracting Company, at $49,765.—L. W. Rundlett, City Engineer.

Glendive, Mont.—The Secretary of the Interior, Washington, D. C., has awarded the contract to the Minneapolis Steel and Machinery Company for the construction of thirty-four highway bridges in connection with the lower Yellowstone irrigation project, at $35,965.

North Bergen, N. J.—The following bids for a hook and ladder apparatus for Tyler Park hook and ladder company were received: John A. McKay Combination Ladder Company, $2,300; Hugo Muldenhauer, Paterson Plankroad, North Bergen, $1,545; American-La France Company, $2,300; the bids were referred to the Committee of the Whole.

Weehawken, N. J.—Bids for the removal of garbage for one year have been opened as follows: James Padarano, $2,700 (awarded contract); C. A. Callery (for the Weehawken Disposal Company), $3,650; John Giston, $2,739; P. A. Pasone, $3,166.

Niagara Falls, N. Y.—Two sewer contracts were awarded by the Board of Public Works; one went to W. A. Shepard & Co. and Simon Fioretta secured the other. The first bids opened were on Contract No. 190, for a sewer in Kosciuszko street, formerly Fifteenth street. The bids were as follows: W. A. Shepard & Co., $1,930.55; Charles T. Shepard, $2,149.25; Simon Fioretta, $2,077.25; John Van Tresca, $1,977.40; W. H. Cookman, $2,139.50; George H. Findlay, $2,233,86; Frank Rosso, $2,044.36. On contract No. 191 for a sewer in Walnut avenue, Robinson court and Grant avenue, the bids were as follows: Frank Rosso, $1,557.80; George H. Findlay, $1,623.25; W. H. Cookman, $1,617; W. A. Shepard & Co., $1,366.75; Charles T. Shepard, $1,526; Simon Fioretta, $1,267.50; John Van Tresca, $1,460.50; Nick Nolfe, $1,652.50.

Rochester, N. Y.—All bids for supplying the city with 5,000 water meters were rejected on January 22 by the Board of Contract and Supply.

Cincinnati, O.—The County Commissioners have awarded the following county contracts: Extension of drain on Garrard road, George Walker, $338; construction of a fence along Campbell road, H. J. Roudebush, $393.75.

Columbus, O.—Contracts aggregating $140,000 for the repair of twenty-three streets have been awarded by the Board of Public Service; among the contractors are Geigle & Ganes, S. T. Knight, Sullivan & Son, B. & G. Baldwin, L. J. Burn, A. G. Pugh and Luctenburg & Co.

Springfield, O.—The contract for the construction of a high level intercepting sewer has been awarded to Cyrus M. Long, Springfield, for $74,370.—W. H. Sieverling, City Engineer. Previously mentioned.

Gould & Wright of Toledo were low bidders on the high level intercepting sewer in every class of work it bid on; the city's de-

sign is reinforced concrete, and it is probable the Board of Public Service will award the contract in this material; the totals as prepared by City Engineer W. H. Sieverling, follow:

Plain Concrete—Gould & Wright, $40,861.30; Mitchell Brothers, $44,354.75; Huonker & Williams, $45,081.40; Bowman Brothers Company, $45,674.60; Thomas P. Strack, $45,977.38; John H. McHugh, $46,384.80; Paul & Kerschner, $48,377.10; Daniel Doyle, $49,240.70; C. I. McCracken Company, $50,285.12; Philip Hipskind & Sons, $51,225.80.

Reinforced Concrete—Gould & Wright, $42,614.90; Mitchell Brothers, $46,826.25; Huonker & Williams, $46,939.80; John H. McHugh, $47,366.40; Thomas P. Strack, $47,512.38; Daniel Doyle, $51,041.50; Paul & Keschner, $51,589.20; Philip Hipskind & Sons, $52,488.60; Bowman Brothers Company, $52,526.50.

Vitrified Pipe—Gould & Wright, $45,728.30; Thomas P. Strack, $51,199.30; Huonker & Williams, $51,990.90; Mitchell Bros., $52,494.20; John H. McHugh, $52,845.50; C. I. McCracken Company, $53,567.72; Bowman Brothers Company, $54,740.65; Philip Hipskind & Sons, $56,562.45; Daniel Doyle, $61,002.44; Paul & Kershner, $62,897.20.

Jackson Reinforced Concrete—Gould & Wright, $40,861.30; Thomas B. Strack, $46,923; John H. McHugh, $48,012.70; C. I. McCracken Company, $50,285.12; Philip Hipskind & Sons, $52,921.80.

Ohio Reinforced Concrete—Thomas P. Strack, $46,432.20; John H. McHugh, $47,031.10; Huonker & Williams, $49,699.50; Philip Hipskin & Sons, $50,735.10.

Sheets' Patent Reinforced Concrete—Thomas P. Strack, $46,923; John H. McHugh, $48,012.70; Philip Hipskind & Sons, $51,500.

Youngstown, O.—The contract for the construction of Section No. 2 of the Mahoning avenue sewer was awarded by the Board of Public Service to John Grady, at $13,102.

Claremore, Okla.—Contracts have been awarded by the city as follows: To Dimnick Pipe Company, Birmingham, Ala., for cast iron pipe, $30.15 per ton; to Wesco Supply Company, of St. Louis, Mo., for 60-h.p., 3-phase, 2,300-volt motor; to Deane Steam Pump Company, Indianapolis, Ind., for 500 G. P. M. triplex pump.—Burns & McDonnell, Scaritt Bldg., Kansas City, Mo., Engineers-in-Charge.

Chester, Pa.—The contract for collecting garbage for five years for the sum of $18,500 has been awarded to George D. Armstrong.

Dallas, Tex.—Bids for the construction of sidewalks around the City Park were opened by the Park Board and contract awarded Lone Star Paving Company; also for Elm and Good street work; there were six bids, as follows: F. Brin—Concrete curb, 62 cents per lineal foot; cement sidewalk, 12 cents per square foot. Dallas Paving Company—Concrete curb and gutter, 75 cents per lineal foot; cement sidewalk, 14 cents per square foot. George R. Ennison—Curb and gutter, 62½ cents; sidewalk, 11½ cents. Lone Star Cement Company—Curb and gutter, 55 cents; sidewalks, 11¾ cents. Klein Bros.—Curb and gutter, 70 cents; sidewalks, 12½ cents. R. C. Stubbs—Curb and gutter, 65 cents; sidewalks, 12 cents.

Civil Service Examinations

Supervising Engineer of Road Construction.—The United States Civil Service Commission announces an examination, March 4, to fill a vacancy in the position of Supervising Engineer at $125 per month, under the War Department. Apply on Form 1312.

Artist and Draftsman.—The United States Civil Service Commission announces an examination, February 19-20, to fill a vacancy in the position of draftsman at $1,200 per annum, in the Division of Publications, Department of Agriculture. Apply on Form 304.

Junior and Assistant Engineer.—The United States Civil Service Commission announces examinations, April 15-16, to fill vacancies as they occur in the position of junior engineer and assistant engineer in the Reclamation Service. Salaries: Assistant engineer, $1,500 per annum and upward; junior engineer, $720 per annum and upward. Apply on Form 1312.

Proposals

FURNISHING AND LAYING SEWER PIPE AND BUILDING SEWAGE DISPOSAL WORKS

Auburn, N. Y., January 27, 1908.

Sealed proposals will be received by the Mayor, Hon. C. August Koenig, until 8 p. m., March 17, 1908, for the construction, first, of sewers and appurtenances thereto; second, for the construction of a disposal works for said sewer system. The sewers to consist approximately of the following: 14,700 feet of 8-inch, 11,300 feet of 10-inch, 6,000 feet of 12-inch, 3,600 feet of 15-inch, 300 feet of 18-inch, 1,250 feet of 20-inch.

Excavation varies in depth from 5 to 18 feet. There will be approximately 16,000 cubic yards of excavation, a part of the same being in solid rock. There will be about 17,000 feet of 5-inch vitrified tile for house sewer connections to be laid from the main sewer to the curb line. There will also be laid in the main trench and underneath the main sewer, as ground water demands, subsoil drains about as follows: 20,000 feet of 4-inch, 6,000 feet of 6-inch, 7,000 feet of 8-inch, 2,000 feet of 10-inch, 200 feet of 12-inch. All of the subsoil drain tile to be vitrified tile known as seconds. 84 manholes with an average depth of 9 feet; 12 flush tanks, 12 lamp holes.

The disposal works consist of reinforced concrete, septic tanks, and contact beds, and automatic appliances for dosing them.

For the sewers a bond for an amount equal to double the gross amount of the contract, or a certified check for $5,000 will be required of all bidders. For the disposal works a bond for an amount equal to double the gross amount of the contract, or a certified check for $2,500 will be required of all bidders. The contract will be let in two sections—Section 1 to consist of all sewers and appurtenances to the same, and Section 2 of the disposal works. Bidders may bid on either or both. The Common Council reserves the right to reject any or all bids. Specifications, general plans and blank forms of proposal may be seen at the office of the City Engineer, W. Thomas Wooley (from whom further information may be obtained), and will be ready for distribution February 15, 1908.

J. S. HANLON,
(6-11) City Clerk.

STREET LIGHTING

Mt. Vernon, Ind., January 18, 1908.

Notice is hereby given that the Common Council of the City of Mt. Vernon, Indiana, will receive sealed proposals for the lighting of the streets of said city, for a term of ten (10) years, beginning July 1, 1909, with electric lights. Plant to consist of eighty-five (85) two thousand (2,000) candle-power inclosed arc lamps.

A franchise for commercial and residence lighting for eleven (11) years, fixing maximum rates, to be agreed upon, will go with the contract for street lighting.

Proposals to be opened April 1, 1908, and a bond in the sum of two thousand (2,000) dollars, payable to said city, shall accompany each bid, to insure the execution of contract.

The Common Council reserves the right to reject any and all proposals.

HENRY KLING,
(5, 6, 7) City Clerk.

ELECTRIC LIGHT FIXTURES

West Point, N. Y., January 30, 1908.

Sealed proposals, in triplicate, will be received here until 12 o'clock noon, February 20, 1908, for furnishing and installing electric light fixtures in gun shed, artillery stable, cavalry stable, artillery barracks and cavalry barracks, as per drawings and specifications in this office. The United States reserves the right to accept or reject any or all proposals, or any part thereof. Forms of proposals furnished upon application. Address

QUARTERMASTER,
West Point.

SALT WATER PUMPING PLANT

Oakland, California.

Sealed proposals will be received by the Board of Public Works of the City of Oakland, State of California, until 11 o'clock a. m. of Wednesday, the eighteenth day of March, 1908, at the office of the Secretary of said Board, Room 9, City Hall, for furnishing necessary labor and materials for the construction of a salt water pumping plant, in accordance with plans and specifications now on file in the office of said Board of Public Works, to which reference is hereby made for full details and description of said work and materials.

Copies and specifications, together with blank proposals and other information, will be furnished on application by Walter B. Fawcett, Secretary of the Board of Public Works.

A few copies of the specifications and proposal blanks can be seen at the office of "The Municipal Journal and Engineer, Flatiron Building, New York City.

WALTER B. FAWCETT,
(6) Secretary Board of Public Works.

TEN MILLION GALLON WATER PUMP

Dallas, Tex., January 25, 1908.

Sealed bids will be received at the office of the City Secretary until 3 p. m., Tuesday, March 3, 1908, for one Ten Million Gallon High Service Vertical Triple Expansion Condensing Crank and Fly Wheel Pump, to be erected by the builders. Bids on any type of engine may be submitted, but preference will be given the above described engine. Specifications on file in the office of the City Secretary, City of Dallas, Texas, copies of which will be furnished upon application.

The City reserves the right to reject any and all bids. That with each bid there shall be deposited a certified check for the sum of five thousand ($5,000.00) dollars, which shall be retained by the City until the successful bidder has entered into contract with the City of Dallas. All unsuccessful bidders' deposit shall be returned to them upon the awarding of the contract to the successful bidder. In the event said successful bidder should fail or refuse to sign said contract and perform the work, according to plans and specifications, after award is made, said certified check shall be retained by the City of Dallas and become the property of the said City.

Envelopes must be marked "Bids on Water Pump."

J. B. WINSLETT,
City Secretary, City of Dallas,
(6-7) Texas.

ROADS AND WALKS

Fort Wood, N. Y. H., Feb. 1, 1908.

Sealed proposals, in triplicate, for the construction of roads and walks at this post will be received here until 11:30 a.m. April 1, 1908, and then opened. The United States reserves the right to reject any or all bids. Information furnished on application. Envelopes should be marked "Proposals for Roads and Walks," and addressed to the undersigned.

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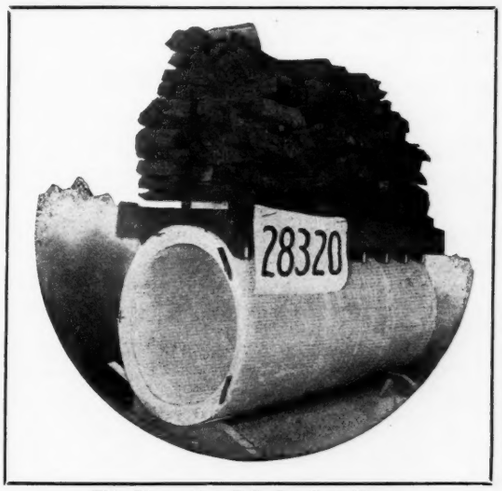

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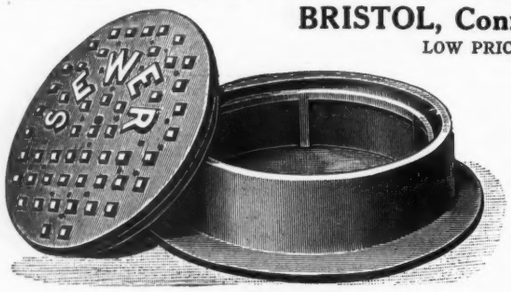

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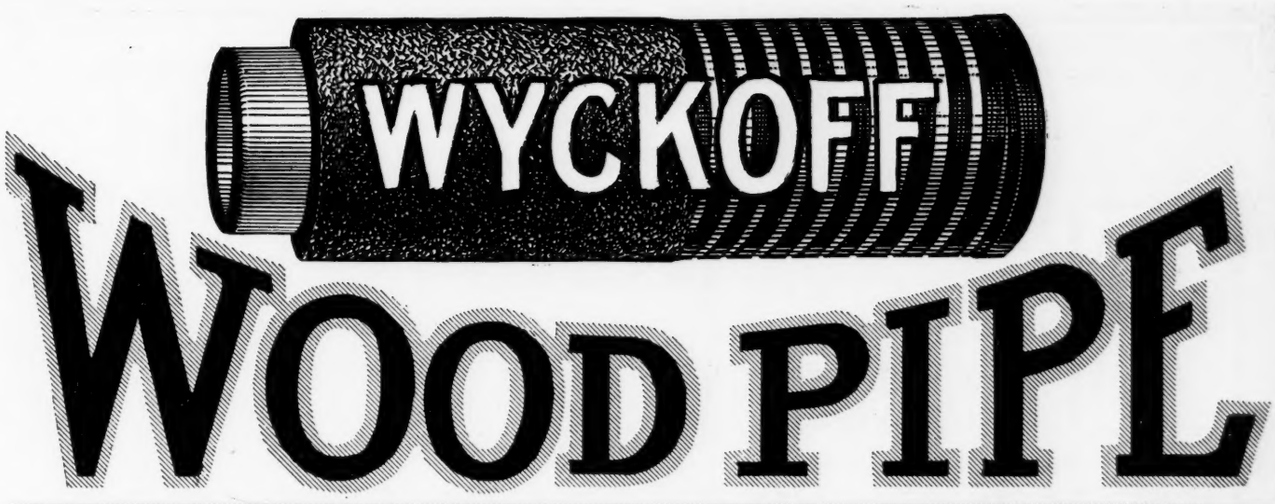

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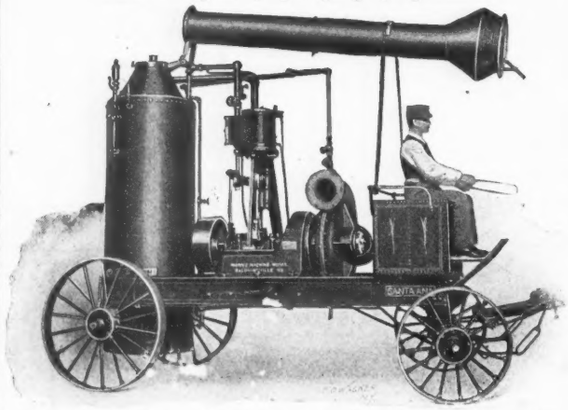

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Henion & Hubbell, *Agents*, 61-69 N. Jefferson St., Chicago

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